OCTOBER 60

MODERN TEXTILES

Specializing in Man-Made Fibers and Blends since 1925

FIBERS

FABRICS

FINISHES

Liberty
Fabrics'
ABE GOTTLIEB
upgrades quality,
speeds output or
Raschel laces—
story page 21



THIS MONTH

Optimum quality control testing

from to sweet right motor

All about glass fibers

PLUS 12 MORE TIMELY AND USEFUL REPORTS





will outrun...outwear all others!

Victor Rocket* Travelers are the world's best in every way. Highest quality because they're manufactured on the latest traveler making equipment. Their longer life cuts by approximately 2/3 the total number of travelers used annually — fewer traveler changes mean substantial labor savings. Have a Victor man select the right SACO-LOWELL RING AND VICTOR ROCKET combination.

They belong on your frames!

*Registered Trademark



Saco-Lowell Replacement Parts Division

SACO-LOWELL SHOPS

Executive and Sales Office: GREENVILLE, SOUTH CAROLINA

Branch Sales Offices: ATLANTA, GA., CHARLOTTE & GREENSBORO, N. C., GREENVILLE, S. C., SACO, ME.



Application of 1-color lacquer ring inside 3°30' cone nose

Sonoco has the answer to yarn identification!

Sonoco was among the first, years ago, to recognize an urgent industry need for economical, sure-fire ways to identify packaged yarn. This led Sonoco to one of its most important developments—the *first* lacquer-tipped cone. Not only did this provide a quick means for identification, it also produced a smooth, hard nose for better yarn processing.

Today, Sonoco uses lacquers, coatings and dyes in a number of methods for marking cones, tubes, cores, spools and bobbins. For example, the 3°30′ cone-tipping machine pictured above applies a 1-color lacquer ring on the *inside* of

the cone nose. This economical method is popular for yarns which do not require a super-smooth cone nose to prevent snagging in take-off.

The unique methods for yarn identification are typical of the advancements made by a fully integrated company with 60 years' experience in creating and producing all types of paper textile carriers. *Only Sonoco*, in its field, provides the necessary knowledge, skill and capacities to meet the everchanging techniques of the textile industry. *Let Sonoco experience help you!*

SONOCO Products for Textiles



SONOCO PRODUCTS COMPANY, HARTSVILLE, SOUTH CAROLINA • Mystic, Conn. • Akron, Ind. • Lowell, Mass. • Holyoke, Mass. • Phillipsburg, N. J. • Longview, Texas • Philadelphia, Pa. • La Puente, Calif. • Fremont, Calif. • Atlanta, Ga. • Richmond, Va. • Brantford, Ontario • Granby, Quebec • Mexico City

October, 1960 Vol. 41, No. 10

Modern Textiles Magazine Established 1925

Published Monthly by Rayon Publishing Corporation 303 Fifth Ave., New York 16, N. Y. MUrray Hill 4-0455

. . .

Francis A. Adams	Chairman of the Board President
Harvey J. Williams	Vice President
Harries A. Mumma	Treasurer
Charles J. Costabell	Secretary
Alfred H. McCollough Jerome Campbell	Publisher Editor
H. George Janner	
Robert C. Shook	Marketing Editor
Joseph Fallat	Art Direction
Harvey J. Williams	Business Manager
	Business Representative
	Business Representative
R. A. Lipscomb	Business Representative
Stanley A. Ehresman	Circulation Manager
I. A. Price	Asst. Circulation Manager

Subscription Rates: North and South America and U. S. Possessions, one year \$5.00; all other countries, one year, \$8.00. Postage prepaid by the publisher. Single copies \$1.00.

BPA

Member of Business Publications Audit of Circulation, Inc.

Entered as second-class matter at the Post Office, Manchester, N. H. Editorial and Circulation offices at 303 Fifth Avenue, New York 16, N. Y. Publica-tion offices at 215 Canal Street, Manchester, N. H. (Originally entered as second-class matter at the Post Office, New York, N. Y. August 20, 1925).

Contents copyright 1960 by Rayon Publishing Corporation. All rights reserved. Articles may be reprinted with the written permission of the publisher, if credit is given to Modern Textiles Magazine.

* Registered U.S. Pat. Office.

The Principal Trade Groups

American Association of Textile Chemists and Colorists......Lowell Techn. Inst., Lowell, Mass. American Association for Textile Technology, Inc. _____100 W. 55th St., New York American Cotton Manufacturers Institute, Inc........1501 Johnston Bldg., Charlotte, N. C. Man-Made Fiber Producers
Association 350 Fifth Ave., New York Silk and Rayon Printers and Dyers Ass'n of America, Inc. 1450 Broadway, New York Association...
Textile Distributors Institute,
469 Seventh Ave., New York

CONTENTS

Publisher's Viewpoint

Foreign Imports Harm Machinery Makers, Too	19
Features	
Pacesetter in Lace	21
by Jerome Campbell	
Creslan Acrylic Fiber for Carpets	22
Instrument Measures Fabric "Raise"	28
Saco-Lowell Growth Predicted	34
Enka's Extra White Nylon Yarn	37
Glass Fibers	42
by H. M. Rogers	
Which Motor will it Be?	48
by F. C. Osterland	
Optimum Quality Control Testing	60
by Norbert L. Enrick	

Worldwide Textile News	20
Dyeing and Finishing Notes	40
New Machinery—New Equipment	46
New Fabrics—New Yarns	58
Textile Newsbriefs	67
Yarn Prices	
Calendar of Coming Events	88
Advertisers Index	88

What is the meaning of this new Fortrel?

Because we believe that the American and world markets have far to go before they are as well-dressed and attractively-housed as new fibers and fabrics can make them . . . Because we believe that there is room—and *need*—for new fibers, Celanese now brings to market the new polyester, FORTREL.

WHY A POLYESTER? Continuing long range market analysis convinced us some time ago that the polyester group—strong, dimensionally stable, durable, tremendously resilient, almost perfect as a blending fiber—has the greatest utility and broadest application of any of the new man-mades.

WHY FORTREL? Polyester fiber, invented in England, was developed by Europe's largest chemical manufacturer, Imperial Chemical Industries. With their vast technical and engineering resources, they have built up a leading world position in polyester chemical and fiber production. So, when opportunity arose to form a joint Celanese-I.C.I. company to produce polyester in this country, we welcomed it. We felt that the combination of I.C.I. manufacturing and research skill and our knowledge of the American market could create important new values for the American textile industry.

HOW WILL CELANESE MERCHANDISE FORTREL? The key to Fortrel merchandising will be Quality Control, based chiefly on a licensing program at the converter level. Testing will be in terms of intended end uses. Identification will be energetically policed. (Details of this program are available upon request.) In addition, a massive advertising, promotion and publicity program has been designed to build a national brand name and consumer franchise.

THE OPPORTUNITY. We are confident that the entrance of Celanese into the polyester field with new fabric developments, new marketing ideas, new promotional approaches, constitutes a rare opportunity for aggressive, imaginative merchants at all levels of the trade. For more detailed information, contact Celanese Fibers Company, 180 Madison Avenue, N. Y. 16, (a division of Celanese Corporation of America).

*Fortrel is a trademark of Fiber Industries, Inc.

Fortrel*

Celanese® NEW POLYESTER FIBER

the fiber that keeps its promise

Veterans Award Dinner

The Textile Veterans Association will hold its 14th annual achievement award dinner at the Commodore Hotel, New York City, on Wednesday, October 19. Harry L. Dalton, vice chairman of the board of American Viscose Corp., will receive the 1960 TVA Achievement Award for philanthropic and civic endeavors. Co-chairman of the industry wide sponsoring committee are John M. Reeves, Reeves Bros., and Harry Riemer, Henry Bach Associates. Tickets may be obtained from Textile Veterans Ass'n, 147 W. 43 St., New York City.

Textured Carpet Yarn Growth

Industry sources estimated that 15 million pounds of textured filament yarn will be consumed by the nation's carpet mills in 1960 as against 3 million pounds in 1959 and only 500,000 pounds the year before, according to Richard N. Volpe, vice president, Commercial Factors Corp. It is estimated usage in carpets in 1961 may reach 30 million pounds. While wool is still the leading fiber and cotton is staging a comeback, Volpe stated, textured filament "undoubtedly possesses the greatest growth potential."

To Expand Nylon Plant

More than \$9,000,000 will be spent by the Du Pont Co. to modernize and expand facilities at its Seaford nylon plant. The major project, aimed primarily at increasing production of 501 nylon carpet fiber through the use of improved technology, is already under way. The new facility, an addition to earlier expansions for production of the 501 product, is expected to be operating within the next 12 months. The Seaford facility, the first nylon plant in the world, went into commercial operation in late 1939.

Knit Use Rise Seen

Use of knits in all phases of apparel for men, women and children will have their greatest increase in recent history during 1961, according to a forecast made by Max Doft, president, Princeton Mills, a division of Burlington Industries. Just returned from an extensive European tour, Doft predicted that new styles in knits would begin to show their effect in the U.S. market this fall.

Doft also announced the following appointments: Elliott Doft as executive vice president; Samuel Silverman as vice president-marketing, and Irwin Needle as director of styling and fabric development.

New Acrylic Fiber Process

The development of a low cost and fully continuous process for the polymerization and spinning of acrylic fibers has been announced by Von Kohorn International Corp. According to John J. Rieck, Vice President, Synthetic Fiber Division, the patented process was developed in Von Kohorn's experimental plant and is being tested on a semi-commercial scale. Results, he said, indicate a reduction in both utility and labor costs of about 50% compared to conventional processes. Moreover, the fully automatic and continuous polymerization and dissolving process of the polymer prior to spinning reduces capital costs by 70%, according to Rieck. The fibers produced by this process are said to possess greater uniformity, improved physical properties and better dye affinity. Production costs are lowered by substantially increased yields in shorter reaction periods.

Von Kohorn operates manmade fiber plants and have worldwide investments in this industry. Recent projects undertaken by the White Plains, N. Y. firm are in polyester and nylon synthetics in Europe, Latin America and India. For further information about

this new process write the editors.



ELIMINATE THOSE TIGHT-MONEY HEADACHES

When loanable funds are scarce, don't sidetrack vital growth. Factoring through Iselin-Jefferson Financial will provide the necessary cash when you need it, without the tight-money headaches.



ISELIN-JEFFERSON FINANCIAL COMPANY, INC.

111 WEST 40TH STREET, NEW YORK 18, N. Y.



means "Freedom"*

Greater resistance to pilling is just one advantage realized with a fiber spun from VITEL, newest of the polyester resins. But, as exhibited by VYCRON (America's most advanced self-care fiber by Beaunit Mills, Inc.) in severe tests by U. S. Testing Company (ASTM Test Method D1375-55T— Procedure "B"), this pilling resistance is distinctly superior to similar fibers. So much so that VYCRON is ideally suited for shirtings, even can be used safely in knit goods. Interested? Further details are yours by writing Goodyear, Chemical Division, Dept. V-9476 Akron 16, Ohio.

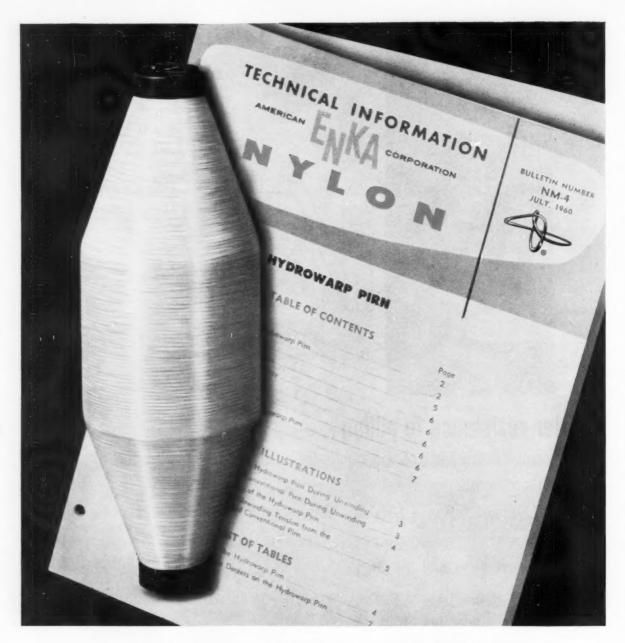


Other Advantages of Fibers Spun from VITEL:

Exceptional yarn strength—good fiber-to-fiber cohesion
Outstanding dyeability and colorfastness
Excellent wrinkle resistance—ideal for wash-and-wear
Easy processability on standard milling systems

GOOD YEAR

*NEW FREEDOM IN THE MANUFACTURE OF A WIDER RANGE OF WONDER FABRICS
Vitel-T. M. The Goodyear Tire & Rubber Company, Akron, Ohio
Vycron-T. M. Beaunit Mills, Inc., Fibers Division, New York, N.Y.



Reduce your operating costs with the...

NEW ENKA NYLON HYDROWARP PIRN

HERE is another technical achievement by ENKA research to help you lower your operating costs—the new ENKA nylon Hydrowarp pirn.

Developed for use in textile processes in which low and uniform tensions are needed, the Enka Hydrowarp pirn has been included in our program of Technical Information Bulletins. This bulletin will give you full details on how our new nylon Hydrowarp pirn: · Increases net yarn weight per pirn

· Improves unwinding tensions

 Reduces your operating costs in texturing, warping, knitting, and throwing

The Hydrowarp pirn package is designed to unwind the yarn from a parallel plane. Thus—the tension during the unwinding is exceedingly uniform. The barrel of the pirn remains concealed and does not come in contact with the yarn until the last few wraps on the package. Send for your copy of Enka Technical Information Bulletin NM-4 on the nylon Hydrowarp pirn TODAY. Write Marketing Technical Dept., American Enka Corporation, Enka, N. C.

American ENKA Corporation, Enka, N. C. • Producer of nylon • rayon • yarns • fibers

NEW YORK OFFICE: 350 Fifth Ave., New York 1, N. Y. • DISTRICT SALES OFFICES: Chattanooga • Greensboro • Providence

SAVE 50% ON SHUTTLE COSTS

With

Inserted Tips, with today's miracle adhesives — virtually fool-proof—with fiber washers to absorb shock.

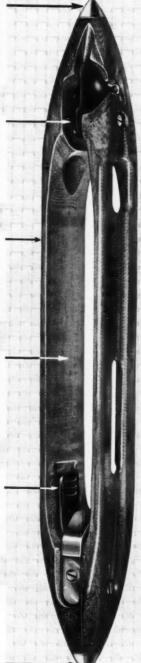
Eyes, full range for any filling, fit better than wood, will stay tight longer.

Body is the toughest, strongest fabric-reinforced plastics available.

Chamber is the exact size and design you want.

Grips have better fit in the harder material, truer and longerlasting quill alignment.

Tip offset— Southern duplicates your location exactly.



Southern

DURAMOLD

Shuttles

You can be certain of getting unusually large savings on your shuttle costs when you invest in Southern DURAMOLD Shuttles. There is no other shuttle anywhere near this remarkable shuttle for quality and stamina.

Once you put Southern DURAMOLD Shuttles in your looms you haven't a care in the world as far as long, dependable, trouble-free shuttle performance is concerned. The reasons are shown at the left.

The record shows that Southern DURAMOLD Shuttles average four times the life of other shuttles, and reports of six or seven times the ordinary shuttle life are not uncommon.

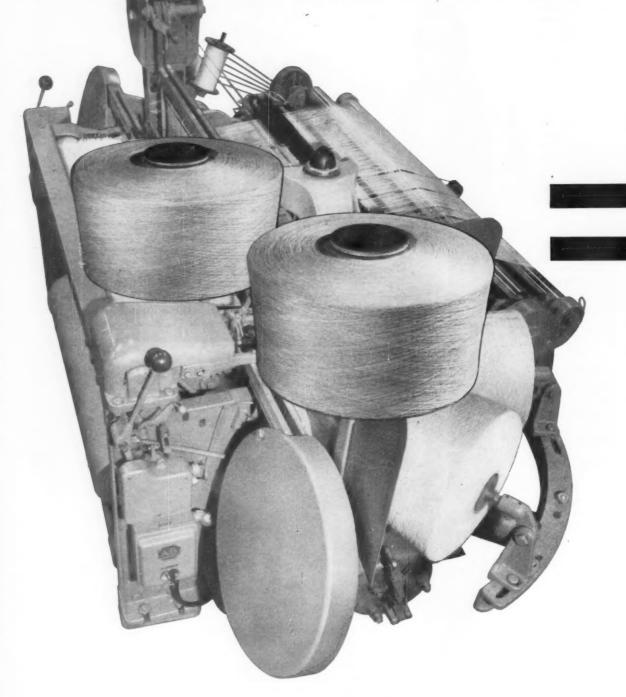
Invest in Southern DURAMOLD Shuttles right now and start getting your bonus savings... plus better quality fabrics. Ask one of our qualified Sales Engineers to show how you can save money by using these outstanding quality shuttles.



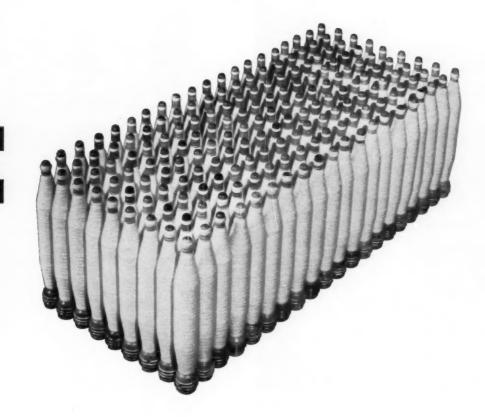
Other Plants and Offices: Granby, Quebec, Canada—Lawrence, Mass.—Greensboro, N. C.—Atlanta, Ga.—Textile Supply Co., Dallas, Texas—Albert R. Breen, Chicago, III.

5-5920

Two-9 lb. cones



180 bobbins*



The Draper Shuttleless Loom, with its compact filling supply, drastically cuts costs of delivering filling yarn to the loom.

Two filling packages, each nine pounds in weight, supply filling yarn equal to that supplied by 180 conventional loom bobbins*.

Less filling handling means; cleaner yarns, fewer cloth seconds, more continuous loom operation, and substantial reductions of weave room costs.

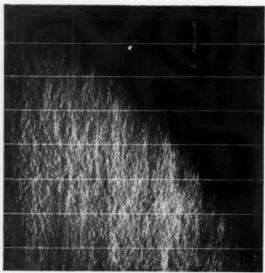
You are cordially invited to visit with us at our exhibit in Greenville, booth nos. 132-133-134.

*22's yarn / 1-7/16" diam (bobbin) / 8-3/4" length (bobbin)

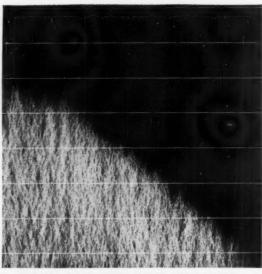


DRAPER CORPORATION

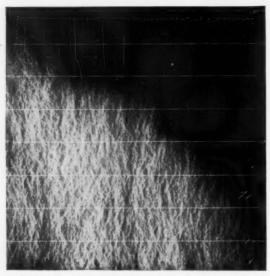
HOPEDALE, MASS. . ATLANTA, GA. . GREENSBORO, N.C. . SPARTANBURG, S.C.



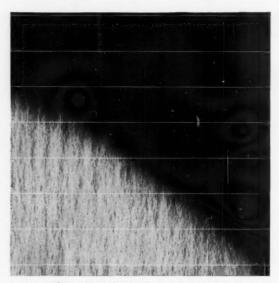
 6 DEN/FIL ORLON* SLIVER DIRECT FROM TURBO STAPLER...heat-stretched to assure maximum shrinkage of fibers.



RELAXED SLIVER FROM TURBO FIBER SETTER...to assure softer hand and finest surface. Nep-free parallelism eliminates carding and combing.



 BLENDED ORLON* SLIVER . . . relaxed and high shrinkage components prior to rebreaking to eliminate overlength fibers.



 6 DEN/FIL ORLON* SLIVER...after reprocessing on Hood Re-Breaker to assure better control for spinning, perfect pattern for pin drafting.

FROM A CONTROLLED STAPLE DIAGRAM . . . AMERICA'S NO. 1 SWEATER YARNS!



LOHRKE / TURBO

TURBO HIGH BULK ACRYLIC YARNS

Only the Turbo Stapler method, utilizing the unique Perlok Process, achieves the correct staple diagram for finest quality high bulk yarn requirements.

Synthetic fibers are first heat-stretched, then broken into variable staple lengths by the Perlok "Breaker Bars". The staple diagram thus produced permits the spinning of yarns of unusual uniformity and cover. Converted filaments are readily given desired crimp for improved processing. For high bulk yarns, a portion of the fibers are "relaxed" by the Turbo Fiber Setter steam process . . . then blended with "unrelaxed" fibers to produce the superior bulk and hand found exclusively in Turbo-Orlon* and other high bulk acrylic yarns. Yarn shrinkage is scientifically controlled during final finishing of the knitted garment. If it's made from Turbo High Bulk yarn, it's made from America's No. 1 sweater yarn!

Whatever the characteristics required, Turbo can provide the answer. Let us supply your high bulk requirements.

1009

J. L. LOHRKE COMPANY/3 PENN CENTER PLAZA · PHILADELPHIA 2, PA. · CABLE ADDRESS: LOHRKO-PHILA.



You get all this and more when you use STAN-SET finishes for cotton, viscose and knitted fabrics. Slacks and skirts, sweaters and shirts, suits and dresses "look younger longer" when treated with those wonderful chemical reactor resins.

And there are other advantages to using STANSET, such as extremely low tensile loss owing to chlorine bleaching and superior non-yellowing characteristics. We'll be glad to send you the full story. Write today to...

STANDARD CHEMICAL PRODUCTS, INC.

Hoboken, New Jersey . Charlotte, North Carolina



A close-up of one of the biggest

The big red "A"-Acrilan* trademark is the symbol of quality in fabrics. No trademark enjoys a greater acceptance. To consumers, the big "A" is a symbol of the high quality of the products they buy, because it is granted only to those mills and manufacturers meeting the specifications of Chemstrand's licensing agreement.

Throughout the years, fabrics made with Acrilan acrylic fiber have gained widespread popularity; to meet the ever-growing demand for products bearing the "A," new fabrics are constantly being developed. With the big red "A," you have one of the biggest trademarks in the industry working for you. Backed by million-dollar campaigns. So tie-in with the red "A". Acrilan trademark, and you'll tie into extra profits.

trademarks in the textile industry

Chemstrand has licensed this
"A"-Acrilan trademark as an ingredient trademark for those fabrications that provide utility, styling and consumer value. In order to obtain a license to use this trademark, the fabrications must meet certain rigid specifications as established by The Chemstrand Corporation.



ACRYLIC FIBER

Chemstrand makes only the fiber: America's finest mills and manufacturers do the rest

THE CHEMSTRAND CORPORATION • GENERAL SALES OFFICES: 350 FIFTH AVE., NEW YORK 1, N. Y. • DISTRICT SALES OFFICES: 350 Fifth Ave., New York 1; 3½ Overwood Rd., Akron, Ohio; 197 First Ave., Needham Heights, Mass; 129 West Trade St., Charlotte, N. C.; California Office: 707 South Hill St., Los Angeles 14. Canadian Agency: Fawcett & Co., 34 High Park Blvd., Toronto, Canada • PLANTS: ACRILAN• ACRYLIC FIBER—Decatur, Ala.; CHEMSTRAND• NYLON—Pensacols, Fla.



THE THE THE THE THE THE THE

Fibre Glass Tube-Drive Twisters

The industry's standard — proven by every major glass fibre producer. New features, new capabilities.

THE REPORT OF THE PARTY OF THE

Vertical Spoolers

New, higher spooling speeds with more spindles in less floor space. Cleans, oils, winds in one operation.

...................

........

Doubler Ring Twisters

Standard, heavy-duty, high-speed...there's an U. S. Acme Twister for every application.

TEXAL PROPERTY OF THE PROPERTY OF

Jumbo Texturizers

Big, big packages of "Taslan"* Textured Yarns — produced 10" by 10" from standard yarns.

Combo Twisters

3 machines in one - conventional, headless package, and combination package up-twister.

UTEX INCORPORATED

A DIVISION OF U. S. TEXTILE MACHINE COMPANY

Designers and Manufacturers of Processing Equipment for all Yarns — since 1929. SCRANTON 8, PENNSYLVANIA, U. S. A.

- SALES REPRESENTATIVES -

William P. Russell P. O. Box 778 Atlanta 1, Ga.

lan M. Haldane & Co. P. O. Box 54 London, Ont., Canada

Dr. Aray Pinto Apartado 3525 Caracas, Venezuela

UTEX BELTS BARMAG TWISTERS SCAGLIA SPOOL CLEANERS MARQUETTE SPINDLES WESTINGHOUSE MOTORS McHALE FLYERS INGERSOLL-RAND COMPRESSORS

Carlos Rios Pruneda Prolongacion Av. Juarez Na. 145, Desp. 17 Mexico 1, D. F., Mexico

Nissho American Corp. — OR — The Nissha Company, Ltd. 74 Trinity Place Toyko Boeki Kaikan Bldg. New York 6, N. Y. Toyko, Japan

Muschamp Textile Machinery, Ltd.
Keb-Lane — Bardsley Oldham (Lancse), England

"Taslan" is Dupont's registered trademark designating textured yarns made in accordance with quality standards set by Dupont.

Some things just lie there...

Some items just lie on the shelf, eating up overhead. Murdering you...You make your money on merchandise that moves. Du Pont fibers help goods do exactly that: move!... Du Pont fiber trademarks are known, trusted, proven. They're miles ahead in consumer preference. (Fact: 2 to 1, men in a recent survey preferred a jacket identified as Du Pont nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as nylon over a jacket of the same brand identified as <a href="mailto:nylon

DU PONT
NYLON "ORLON" "DACRON" "
...GIVE YOU A SELLING EDGE!

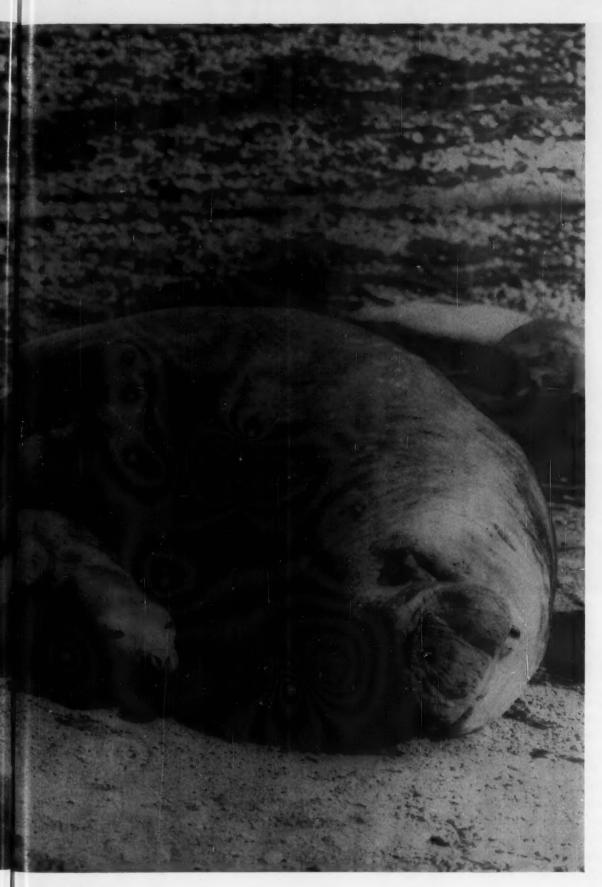


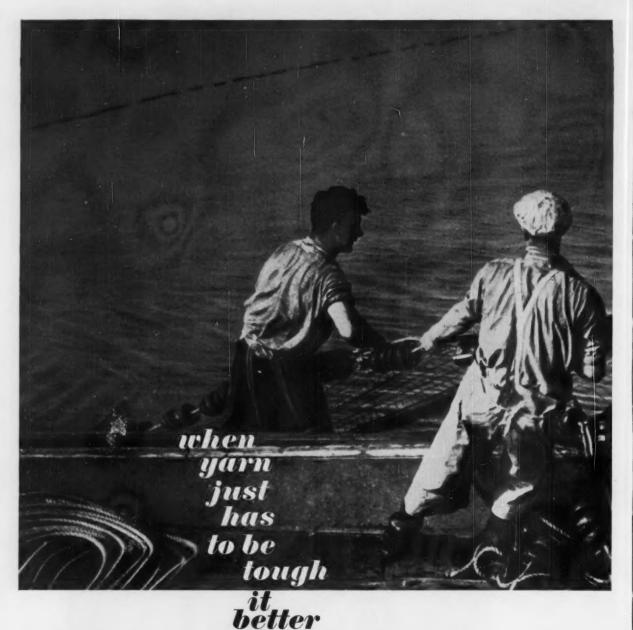
BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTE

*Du Pont's registered trademark for its acrylic fiber. **Du Pont's registered trademark for its polyester fiber.

Enjoy THE DU PONT SHOW WITH JUNE ALLYSON, Thursday nights on CBS-TV.







Golden Caprolan Nylon

It takes a tough yarn to assure a net profit—and tough is the word for high-tenacity Golden Caprolan® by Allied Chemical. But Golden Caprolan is more than just a tough yarn. It is a remarkably versatile yarn that offers a unique combination of superior performance qualities including unsurpassed resistance to abrasion, excellent rubber adhesion, greater resistance to flex fatigue, and troughing qualities not obtained from other yarns. Golden Caprolan established a new criterion for heat stability

in nylon tire yarn and a new standard of strength for heavy-duty marine ropes. Golden Caprolan is performing superbly in conveyor belts, tarpaulin fabrics, high-strength industrial webbings, and other applications where heavy-duty performance is essential. If you have a tough job, we have the tough yarn for it.

Our technical service, end-use development and fiber application staffs are ready to help.



MODERN TEXTILES

Magazine

Publisher's Viewpoint

Foreign Imports Harm Machinery Makers, Too

What is sauce for the goose is sauce for the gander. Packed into this old saying is a wealth of painful truth—truth that American millmen might well take to heart. It is a distressing fact that not a few of our textile leaders, fighting the good fight against low wage foreign imports, have been behaving in a regrettably inconsistent way, when it comes to their own purchases of textile equipment.

While they have been protesting against imports of foreign cloth, they have been buying foreign textile machinery to the great harm of our own splendid and vitally necessary textile machinery industry. And the loss of these millions of dollars worth of orders has hurt American machine builders and hurt them badly.

Machinery Makers Speak Up

It was pointed out in September by spokesmen for the American textile machinery makers in testimony before the Committee on Reciprocity Information that the penetration of the American market by foreign built equipment is on a price factor alone; that price is governed by low wage rates and apprentice practices prevailing in other countries; that many of these foreign built machines are exact copies of machines developed in this country after years of research by American machine builders.

Spokesmen for the American Textile Machinery Association also pointed out that American textile machinery makers are currently operating at 60% of capacity and that the employment rate is 40% below ten years ago. ATMA has asked that the U.S. remove all textile machinery from further negotiations under the General Agreement on Tariffs and Trade.

Saving Pennies and Losing Friends

The American textile machinery industry, we believe, is as deserving of protection against

low-wage imports as the American fabric manufacturing industry. And is it not disastrously shortsighted for American millmen, fighting desperately for tariff protection against imports, to invest millions in foreign machinery to the great harm of American textile machinery builders?

Does it not weaken the case of the mills before Congress and the American people if, asking for protection from imports, they pass up fine American machinery, as good if not better than any machines available abroad, simply to save a few dollars per spindle?

On these questions, American mill management people might well take thought. Often in recent months, leaders of the industry, high officials of the American Cotton Manufacturers Institute and other textile trade associations, have pointed out that the import danger is not confined to textiles alone. They have shown how the harm done by imports has spread to steel, autos, sewing machines, typewriters and many other industries. And these textile leaders have sought support from other industries in their fight for tariff protection.

This being the case, is it not the height of folly for these same millmen to seek bargains in foreign textile machinery to the detriment of its close friend and willing ally, the American textile machinery industry? How can they expect Congress, the American business world generally and the American people to listen seriously to their complaints if they do not practice what they preach.

"A man of words and not of deeds Is like a garden full of weeds."

a.145Mccollough

TEXTILE NEWS



World Wide

JAPAN'S ACRYLIC fiber makers are undergoing a planned, though not wholly desired production cutback. The reason, as always, is high inventories. Some millmen hope the last quarter of the year will bring about a revival that could permit some firms to work up from the 70% operating levels they have maintained since spring. However, Japanese acrylic fibers are not as suited for industrial purposes as are competing nylon and vinylon, nor are they priced low enough to substitute for wool.

NYLON SAILBOATS are offered by Japan's Toyo Rayon Co. The portable boat, which weighs 70 pounds is some nine feet long, has a three-foot beam and can hold two persons. Priced in Tokyo at \$110 retail, the boat is made mainly of Tetoron polyester and rubber-coated nylon fabrics with wooden frames.

RUSSIA GRANTS new machinery order to Britain's Platt Bros. (Sales) Ltd. The contract, estimated to call for \$4.9 million in textile machinery, is to include a complete worsted spinning plant along with worsted finishing equipment and some new Platt cotton combers. Platt received a \$2 million manmade textile equipment order several weeks previously from Russia.

Moscow. Three big Japanese textile producers were invited to Russia in July to study that nation's textile industry. The firms: Toyo Rayon, Toyo Spinning and Dai Nippon Spinning. About the same time a delegation representing the National Association of Scottish Woollen Manufacturers, also visited Russia. Purpose was to expand exports after ascertaining Russian style needs. "Were they to take even a fraction of 1% of their needs from us, our exports would rise sharply," a group spokesman said.

ARGENTINE NYLON producer is mapping sharp rise in production, starting January, 1961. The firm, Hisisa Argentina, will turn out 1.36 million pounds of nylon yarn and 440,000 pounds of stretch nylon. The company will also produce 242,000 pounds of Ban-Lon textured yarn next year.

FRANCE "SATISFIED" with U.S. exports. Jean de Precigout, president of the Syndicat Francais des Textiles Artificiels, stated in the group's annual report, that "we are fully satisfied with the U.S. decision that its anti-dumping laws were not applicable to imports of French rayon staple fiber." The U.S. is France's biggest export outlet, taking 41.7% of 1959's 57,000-ton French output.

ITALY'S SNIA VISCOSA is set for a broad expansion program which is just beginning to roll. According to Snia president Franco Marinotti, synthetic fibers, caprolactam and plastics are to be included. He noted that Italian synthetic fiber output jumped 50% in the first half of 1960 and that this company's Lillion production was 100% higher. Next January, a new plant near Milan will be producing Koplon, a new fiber designed either to be used alone or blended with cotton. Marinotti claims it will be 30-40% cheaper than comparable quality cotton. Snia also plans to turn out a new acrylic fiber in 1960.

colombia is promoting fique fibers for use in packaging coffee beans. Aided by the government, which is curtailing imports of jute, six factories are now at work manufacturing the coffee bags. Most of the fique fiber is laboriously hand-processed. Further expansion could lead to mechanization. Last year's crop of fique, which is related to the amaryllis plant, rose 35.3% but will still be insufficient to meet Colombia's coffee bag needs.

SOUTH AFRICA PUSHES pineapple fibers as prices for the fruit continue to decline. The director of the Pineapple Research Station at Fort Grey stated that two tons of fiber per acre could be attained from 14,000 plants. Fabrics have been woven from pineapple fibers both in Malaya and the Philippines.

RED CHINA ALSO USES plant fibers for textile fabrics. Reportedly some 30 million yards of over 400 kinds of cloth have been woven from about 60 species of wild plant fiber, including willow trees, soya bean stalks and cotton plants often blended with cotton waste or rags.

AUSTRALIA'S POST OFFICE is replacing its blue jean mail sacks with sky-blue nylon for all air mail purposes. The Post Office will save an estimated \$112,000 annually in freight charges. The nylon sacks weigh 6¾ ounces, against 14 for the jeans. They will cost about 25¢ more.



Faster machines,
running at lower cost
have freed the
tradition-bound lace
industry for a big
leap into an expanded
future. Poised to
make the jump is Abe
Gottlieb's Liberty
Fabrics—

PACESETTER IN LACE

By Jerome Campbell

EDITOR, MODERN TEXTILES MAGAZINE

Our times' technological upheaval that is bringing speedier output at lower cost to virtually every section of fabric manufacturing has not overlooked the ancient and specialized art of lace making. Although lace is used widely in womenswear, chiefly on undergarments and sleepwear, few millmen know much about how it is made. The lace making industry is a comparatively tiny one among the many segments of the overall textile industry. But although small and decidedly obscure, it is complicated, lively, highly competitive and, for those who are good at it, agreeably profitable.

During the past three or four years, largely because of sudden and dramatically surprising improvements in Raschel machines used in making lace, the industry is being torn apart from top to bottom, and revitalized with the exciting prospect of broader markets for lace as a result of lower manufacturing costs.

For generations the lace manufacturing industry jogged along, turning out a wide variety of laces and nets to meet the variable demands of the fashion market. The machine on which these laces were made was the justly famous invention, almost 150 years

ago, of Englishman John Leavers. In the years since then these machines, which are still made only in England, have been improved, of course; however, the basic Leavers machine in use today has not changed much during the past 50 years.

The contemporary Leavers lace machine, although smaller, faster and more compact than its predecessors, is still extraordinarily complicated. Its principle of operation, however, may be summed up in this way: great numbers of small metal bobbins, each holding no more than 150 yards of fine yarn, are swung back and forth through the warp or ground threads. The ground threads themselves move back and forth according to the requirements of the pattern being woven, their movement controlled by a Jacquard punched card mechanism.

An astonishingly wide variety of lace constructions and patterns are produced by this machine. They are laces that, in their delicacy and intricacy of design, come fairly close to the artistic level of hand-made

The drawbacks of the Leavers machine, however,

(Continued on Page 55)

Woolen system yarns of CRESLAN ACRYLIC FIBER

CRESLAN acrylic fiber may be processed with excellent efficiency on the woolen system, and carpet yarns spun from Creslan offer superior loft and resilience. Fifteen-denier, semi-dull carpet staple is available from American Cyanamid Co. in four-inch lengths.

Normal humidities of 60% to 65% and temperatures of 72° to 80°F. are recommended. Bales should be opened and staple allowed to condition for several hours prior to processing.

Best results are obtained by maintaining a moisture

(Continued on Page 66)

		Breast	
	Diameter	rpm	Settings
Feed rolls Lickerin Lump roll Cylinder Strippers Workers Tumbler	2 7/8-inch 7-inch 4-inch 25-inch 3 1/4-inch 7-inch 14-inch	4 35 33 50 125 10 150	Feed rolls to lickerin - 26 gauge Lickerin to lump roll - 26 gauge Lump roll to breast - 26 gauge Workers and strippers to breast - 24 gauge Strippers to workers - 24 gauge Tumbler to breast and main cylinder - 26 gauge
Clothing: me	tallic		
		Breaker Secti	Lon
	Diameter	rpm	Settings
Cylinder Strippers (6) Workers (6) Fancy Comb	60-inch 2 3/4-inch 7-inch 9 3/4-inch	72 425 6-10 475 1400 strokes per minute 9	Strippers to workers - 26 gauge Workers to cylinder - 26 gauge Strippers to cylinder - 26 gauge Doffer to cylinder - 26 gauge
Clothing: 22	/26 wire		
		Finisher Secti	on
	Diameter	rpm	Settings
Cylinder Strippers (6) Workers (6) Fancy Comb	60-inch 2 3/8-inch 7-inch 9 3/4-inch	72: 425 6-10 525	Strippers to workers - 28 gauge Workers to cylinder - 28 gauge Strippers to cylinder - 28 gauge Doffer to cylinder - 28 gauge
Clothing: Cy Do	linder - Str ffer - Str		21/32 - 189 points/inch 22/32 - 210 points/inch
		Condenser	•

Carding

(15-denier, 4-inch staple) Type of machine: Davis & Furber 60 x 60-inch woolen card

Speed of condenser - 38 rpm on 72-inch spool drum

Speed of eccentric - 320 rpm

Franklin- Dyed THEY HELP TO MAKE FASHION PRO



Franklin Frocus

DIVISION OF INDIAN HEAD MILLS, INC.

There's risk enough in fashion fabrics (knitted, woven or tufted) without adding to it by complicating your dyed yarn problems. Franklin Process can simplify these problems and make your operation more profitable, because: —

- With the largest package dyeing capacity in the world and 4 plants, we are a highly dependable source of supply.
- 2. The Franklin Compressible Spring assures uniform density of packages and hence uniform shades.
- Our unequalled laboratory facilities and half a century of experience assure strict quality control and the know-how to cope with difficult dyeing problems.

Get in touch with our nearest plant or office and let us quote on your yarn dyeing requirements.

LARGEST PACKAGE DYERS IN THE WORLD

Dyers of natural and synthetic yarns on Franklin compressible spring exclusively.

PHILADELPHIA • GREENVILLE • CHATTANOOGA • FINGERVILLE, S. C.

New York Office . . 111 West 40th Street Providence Office . . 611 Turks Head Building

HERESITE

REG. U. S. PAT. OFFICE

COATED IRON PIPES AND FITTINGS
PROTECT YOUR PRODUCTS



Many industries rely on HERESITE PURE PHENOL-FORMALDEHYDE resin lining in steel pipes and steel pipe fittings to control corrosion and commodity contamination.

Since 1942 the oil industry has used millions of feet of pipe which were lined with HERE-SITE to reduce corrosion fatigue.

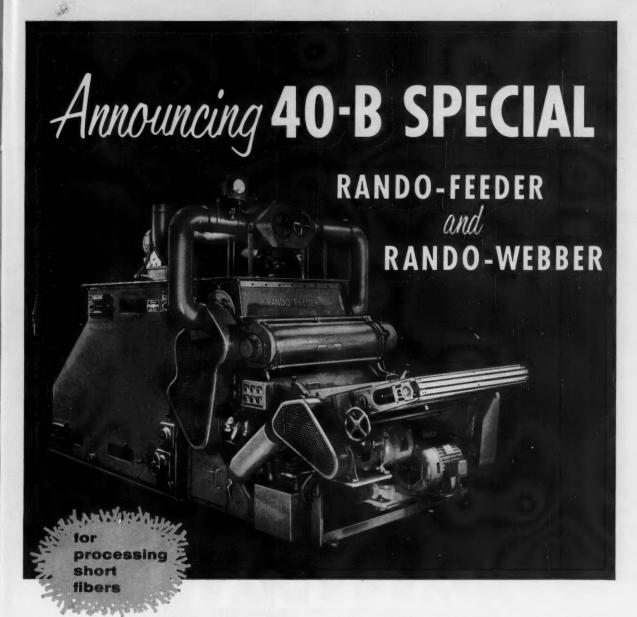
Catalog No. 57 will be mailed if requested on your letterhead.

HERESITE & CHEMICAL COMPANY

MAIN OFFICE & PLANT-MANITOWOC, WISCONSIN

GENERAL COATING, INC.,-WOODBRIDGE, NEW JERSEY (Subsidiary)

Canada: Dominion Rubber Company, Ltd. Montreal, Quebec Europe: Aluminium-Schweisswerk A. G. Schlieren-Zurich, Switzerland



Now you can produce a continuous uniform RANDO-WEB® structure from 100% short fibers such as bleached sulphite pulp, linters, flock and blends containing high percentages of fiberized paper, fiberized leather and chopped flexible plastic foam.

Special RANDO-FEEDER®(s) and RANDO-WEBBER®(s) are also available for processing 100% metal fibers, unusual and special materials.

Simplicity of operation, minimum space requirements, low maintenance, manpower and overhead, together with high yield of quality production are some of the advantages of this modern, efficient, continuous method for manufacturing specialty products.

For more detailed information, write for our new Bulletin No. 106.



CURLATOR...World's Leading
Manufacturer of Fiber Web
Processing Machinery

EXPORT REPRESENTATIVE: Lendt & Company 535 Fifth Ave., New York 17, N. Y. SOUTHERN REPRESENTATIVE: Parrott & Ballentine 3440 Augusta Rd., Greenville, S. C.



LOOK AHEADto variety

STAY AHEAD with versatility! Weave rooms best equipped for the variety of fabrics woven today are those to which UNIFIL® Loom Winders have brought new versatility.

UNIFIL Loom Winders permit the use of a wider variety of filling yarns: natural and manmade; spun, filament and textured. They enable single-shuttle weave rooms to switch filling yarn from one count to another, from one fabric to another, as quickly as style change demands — and at no extra cost. By eliminating several operations they drastically reduce inventory and production planning, work scheduling and employee training.

For these and many other reasons, leading textile manufacturers consistently reorder UNIFIL Loom Winders. Because of its unmatched versatility, UNIFIL allows mills to wind from any filling supply economically. Quills are wound and shuttles loaded, empty quills stripped and returned for rewinding . . . all automatically, right at the loom.

Learn how UNIFIL Loom Winders' inherently better method of filling yarn preparation can help you get ahead today and stay ahead tomorrow. Call your nearest Leesona Sales Engineer — in Boston, Philadelphia, Charlotte, Atlanta or Los Angeles. Or write Leesona Corporation, P. O. Box 1605, Providence 1, R. I.

Some of many modern mills that are looking ahead — with UNIFIL Loom Winders.

ABDON TEXTILES, INC. AMEROTRON COMPANY BAY STATE MILLS BEMIS BRO. BAG CO. BERNSON SILK MILLS BLOOMSBURG MILLS, INC. BRUCK MILLS, LTD. CADILLAC TEXTILES, INC. CANNON MILLS CO. CHRYSLER MILLS, INC. CONE MILLS CORP. DOVER MILL GROUP ERLANGER MILLS, INC. FRANK IX & SONS GERRISH-MILLIKEN MILL GREENWOOD MILLS JAUNTY FABRICS CORP.

KALCO WEAVING CORP. KINGSLEY MILL CORP. LYNN TEXTILES MARION MFG. CO. PANSY WEAVING MILLS PEPPERTON COTTON MILLS REEVES BROTHERS RIEGEL TEXTILE CORP. SCHNEIDER MILLS SHELBY MILLS SPARTAN MILLS STANWOOD MILLS, INC. J. P. STEVENS & CO. STRASBURG TEXTILE MILLS UNITED MERCHANTS & MANUFACTURERS, INC. WELDON MILLS, INC.





Instrument measures fabric "raise"

Exclusive from Manchester

A DEVICE which may eventually make it possible to measure and record automatically the degree of raise imparted to a fabric, eliminating the present unreliable method of using human judgment, is being developed by the British Rayon Research Association, Manchester, England, and is intended to be made commercially available in the near future.

As is well known, it is difficult to define the term "raise" or "degree of raise" of a fabric. And there is no generally acceptable method of measuring and indicating it. The usual practice is for a skilled worker to assess the amount of raise by feeling and looking at the fabric and comparing it with a standard sample. But this inevitably leads to differences of opinion.

Such differences may arise between buyers and sellers of fabrics. It is thus clearly desirable, therefore, to have a definite system of measuring the degree of raise which, if possible, reduces the measurement to numerical terms acceptable to most people and which gives the same sort of result as visual assessment.

One method of measuring degree or raise involves measuring the apparent specific volume of the fabric, which is a function of the thickness of the fabric at a given pressure, and its weight per unit area. It is recognized, however, that the measure of thickness at a single value of pressure does not give sufficient information to determine the degree of raise.

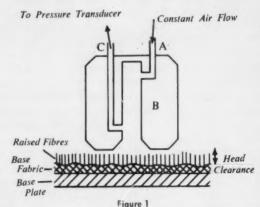
More elaborate methods are practiced in the laboratory which require the thickness of the sample to be plotted against the pressure applied to it; but such methods are complicated, take a great deal of time, and are generally not suitable for everyday use in the mill.

The prototype device which the British Rayon Research Association have developed is known as the "Raisemeter". Although it is still in the laboratory stage, experience with it has shown that it can contribute much useful information both in the laboratory and in the mill.

The working principle of the device is basically simple: it measures the resistance of the raised fibers of a fabric to a controlled flow of air which is made to pass through them. This resistance is measured and recorded continuously, using a sensitive pressure transducer and an electronic unit. The record thus

obtained indicates the amount of raised material underneath the measuring head of the 'Raisemeter' as the fabric passes beneath it.

The accompanying diagram (Figure 1) shows a section of the measuring head. A constant flow of air is fed in at 'A'; it passes radially from the center of



Diagrammatic cross-section of measuring head of "Raisemeter".

the head, through the raised fibers beneath it. The back pressure produced by the resistance of the fibers to the air flow is measured by a diaphragm pressure transducer which is connected to the measuring head at 'C'. This pressure is usually about 1 inch water gauge. The system gives a reading for a change in pressure of about 0.1 inch water gauge.

A valuable feature of the Raisemeter, which can be applied to all types and thicknesses of fabrics, is that it can be used to measure degree of raise on a running fabric and will show the increase in raise produced by each pass through the machine. The degree of raise is drawn on a recording chart of known type and provides a visual record of the state of the fabric as well as enables permanent processing or sales information to be maintained.

A commercial version of the Raisemeter will be produced in the near future by Louis Newmark Ltd., Perfect Works, Purley Way, Croydon, Surrey, England. For further information write the editors.

Celanese Sales Rise

Celanese Corp. of America reported sales of \$137,-453,943 for the first half of this year, an 8% increase over the 1959 first half sales of \$127,578,050. Net income for the first half came to \$10,054,290, equal to \$1.05 per share of common stock, a 4% decline from the \$10,445,088 or \$1.10 per share for the corresponding 1959 period. The firm reported "substantial progress" in certain diversification and expansion projects, including its entry into the polyethylene packaging

film field, commercial introduction of Arnel 60 triacetate and Fortrel polyester fibers, and newly-approved expansion of plant facilities in Pampa, Texas, for producing acrylate esters, chemicals used in paint, paper, textiles, rubber and other products.

Celgar Limited, a Canadian affiliate of Celanese Corp., has arranged for the placement of \$30,000,000 of 6\% \%, 20-year first mortage bonds with The Prudential Insurance Co. of America. The funds will be used in the construction of a 500-ton-a-day bleached kraft pulp mill at Castlegar, British Columbia.



Carbanthrene Yellow Brown 3G Paste

Carbanthrene Brown AR Double Paste

Carbanthrene Brown VR Paste

Carbanthrene Khaki 2G Double Paste

Carbanthrene Olive G Paste

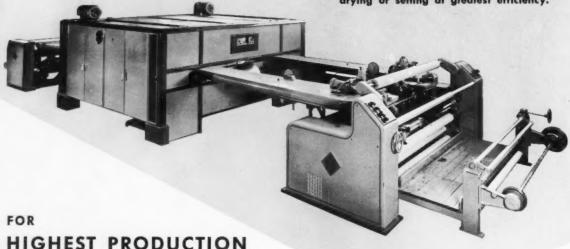
Carbanthrene Olive G Paste

NATIONAL ANILINE DIVISION

40 RECTOR STREET, NEW YORK 6, N. Y.
Atlanta Boston Charlette Chicago Dallas Greenbora
Les Angeles Philodetphia Pertiand, Ore. Previdence San Francisco
In Canadea. ALLED CHEMICAL CHARDA, LTD.,
1450 City Councillors St., Montreal 2 100 North Queen St., Toronto 18
Distributers throughout the world. For Information:
ALLED CHEMICAL INTERNATIONAL - 40 Restor St., New York 6, N. Y.



SINGLE LAYER TENTER FRAME with combined pin-clip chain permits speeds up to 250 yards per minute. Integral gas heating system within housing or steam radiators provide maximum drying or setting at greatest efficiency.



FAMATEX

leading American mills depend on



Write for complete details and mill references.

ROBERT REINER, INCORPORATED

Telephone: UNion 7-0502—From New York City call LOngacre 4-6882.

WEEHAWKEN

(Only 10 minutes from Times Square by direct bus)

NEW JERSEY

AN HONORED NAME IN TEXTILE MACHINES SINCE 1903.

BEAUNIT

FOR INDUSTRY

VISCOSE RAYON:

TYREX† tire cord and yarn Heavy denier industrial rayon yarns, in addition to tire cord

Chafer fabric yarn
Liner fabric yarn
Hose reinforcement yarn
Strapping tape — high strength
Yarns for industrial belting

 $NARCON^{\text{\scriptsize 18}}$ high strength staple rayon for industrial belting and coated fabrics

VYCRON* POLYESTER:

Filament VYCRON yarn for sailcloth and industrial tapes
Direct spun VYCRON for boat covers, sailcovers, and fire hose fabrics
VYCRON staple for non-woven fabrics, carpeting, filters

POLYPROPYLENE FIBER:

Fiber for cordage, carpeting, filters

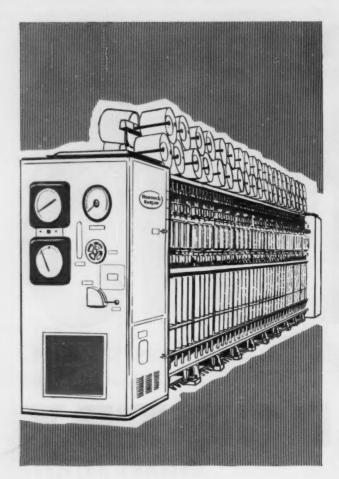
For specifications on any of the Beaunit Industrial Yarns or Fibers, contact us immediately.

BEAUNIT MILLS, Inc. Fibers Division

261 Fifth Avenue, New York 16, New York

*Registration applied for. Beaunit Mills, Inc., Fibers Division VYCRON is spun from VITEL®, Goodyear polyester resin.

†Certification mark of TYREX inc.



The HDT.1 heavy denier drawtwister

meets the trade's most exacting requirements

UNIQUE FEATURES-

Designed specifically for the hot stretching of the heavier, high tenacity, synthetic yarns.

Up to 9 lb. net weight of yarn on a 14 in. lift bobbin.

Denier range up to 2,000.

Delivery speeds up to 1,250 ft./min.

Hydraulically driven and controlled building motion.

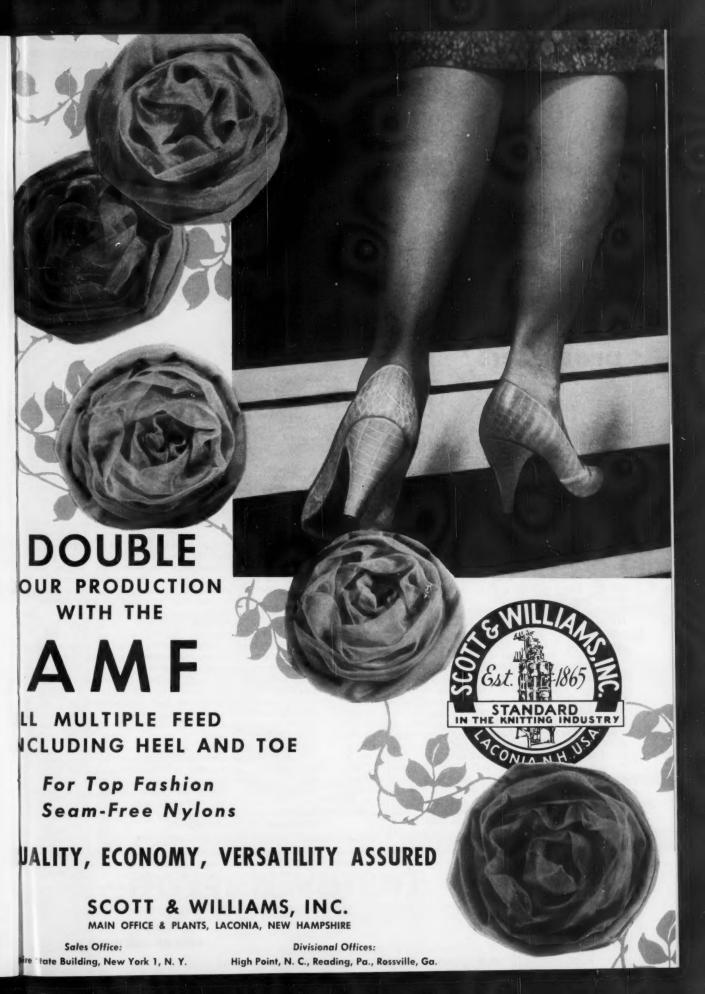
Complete with all electrical equipment, including automatic, hot plate temperature scanning.

For further details apply to:

DOBSON & BARLOW MACHINERY SALES LTD.

BRADLEY FOLD WORKS, BOLTON, ENGLAND

10



Saco-Lowell growth predicted



SHARP SCRUTINY—Inspecting small parts production at Saco-Lowell's Easley, S. C. plant are (left to right) Arnold H. Maremont, president, Maremont Automotive Products, Inc., Henry Jewell, plant manager, and Howard E. Wolfson, Maremont board chairman.

Saco-Lowell Shops will continue as an active and independent manufacturer of textile machinery and expects to increase its earnings during fiscal 1960 while looking toward an expansion of its research and development activities, according to Arnold H. Maremont president of Maremont Automotive Products, and Royden Walters, Saco-Lowell vice president and general manager.

Maremont Automotive recently acquired 52% of Saco-Lowell stock. Maremont and Walters made their statements regarding Saco-Lowell's future at a press conference on Sept. 6 at Saco-Lowell's textile machinery plant in Easley, S. C., near Greenville. Maremont was accompanied on his visit to the plant by Howard E. Wolfson, Maremont Automotive Products' board chairman, and Jerome M. Comar, the company's executive vice president. Present to welcome them along with Walters, was David F. Edwards board chairman of Saco-Lowell.

Maremont Automotive now owns 287,509 shares of Saco-Lowell stock. Maremont said that his company had great confidence in the future market, both in the United States and abroad, for Saco-Lowell's textile machinery. "Our interest in Saco-Lowell is entirely constructive," he said. "There will always be a need for textile machinery, just as there will be for automotive parts. We have become associated with a great leader of a historic industry, and in return, it is our belief that Saco-Lowell Shops will benefit from Maremont's record of growth and financial stability."

Speaking for Saco-Lowell, Walters welcomed Maremont's investment "as a major step forward in building Saco-Lowell's present and future position within its industry."

Walters noted that both companies place major emphasis on technological advancements and product research. He said that their brand names are recognized as "hallmarks of quality."

Expansion of Saco-Lowell's research and development facilities may be an early result of the Maremont investment, Walters indicated. Such a center is now maintained at Clemson, S. C., working closely in textile research with nearby Clemson College.

In this connection, Maremont said that he personally believes research and development should be given the highest priority in any modern industry, and "especially in one facing increased foreign competition, as are both the automotive and textile machinery industries."

Walters reported that "with new stability and support lent by Maremont," Saco-Lowell looks forward to a substantial increase in earnings during fiscal 1960. He predicted that sales will climb to \$38 to \$40 million from last year's \$27 million.

Saco-Lowell also has a textile machinery plant at Sanford, N. C., and a plant at Biddeford-Saco, Maine, which manufactures automotive and agricultural implement parts. The New England plant is also currently the prime contractor for the new M-60 machine gun now being used to equip United States and NATO Armed Forces.

Maremont Automotive Products, with record sales last year of \$31 million, is a manufacturer of automotive replacement parts, including mufflers and exhaust systems, brake shoes, blocks and linings, clutch parts and assemblies and camshafts. It has plants and facilities throughout the country, including a clutch and brake factory in Atlanta.

New Polyether Plant

Solvay Process Division of Allied Chemical Corp. will build a plant at Baton Rouge, La., for the manufacture of polyethers, making the company a source for all the major urethane foam components. Facilities now at Baton Rouge produce soda ash, chlorine and caustic soda. The polyethers, used for both rigid and flexible foams, will be marketed by Allied's National Aniline Division. Initial capacity will be

around 20 million pounds annually, with a built-in provision for expanding production rapidly. The plant will utilize propylene oxide as the starting material, with initial production expected to start in June, 1961.

SPEC

DCE

DYEING and FINISHING SECTION

the FIBER PRODUCER'S dilemma



Fiber producers live in a world of . . .



(audio)

... pressure vessels



(audio)

... piping



(audio)

... pumps



(audio)

... and gloop



(... 1' - \

Their process is top secret



(audio)

They need a working partner



(audio)

... to design and build equipment



(audio)

... to develop a pilot plant



(audio) And most

important: Someone they can trust



(audio)

America's leading fiber producers



(... J: -

... have solved this dilemma



(audio)

EACHING

RINTING SPECIAL OCESSING ... at Butterworth



(audio) ... world's largest independent

manufacturer



(audia)

... of synthetic fiber machinery



(audio

. . . now, everybody is happy

BUTTERWORTH... machine builder extraordinary



H. W. BUTTERWORTH & SONS COMPANY Division of Van Norman Industries, Inc. BETHAYRES, FA. • SINCE 1820

In the South: Industrial Heat Engineering Co., Greenville, S. C. In the North: United States Supply Co., E. Providence, R. I.

HERE ARE TWO NEW DYEING AUXILIARIES REPRESENTING REMARKABLE ADVANCES IN DYEING TECHNIQUES

DYASIST #230 is a highly efficient retarding agent for dyeing 100% Orlon, using cationic dyes. It produces exceptionally uniform and level dyeings, due to its continuing retarding effect throughout the dyeing cycle. It is particularly useful for dyeing light and pastel shades.

DYASIST #281 is a dye bath leveling agent created solely for eliminating Barre' marks which frequently occur in dyeing nylon fabrics with acid dyes. When used as recommended, it does not adversely affect the light fastness of the dyed fabric.

Technical Bulletins on request



Here are the facts about Enka's

EXTRA WHITE NYLON YARN

NKA'S BLANC DE BLANCS nylon yarn was developed for use in foundation garments, girdle fabrics, and other similar products in which extra whiteness is important. It is in no way suggested that this yarn be restricted to these end uses, as there are many other products in which extra whiteness is an asset. Blanc de Blancs nylon yarn is comparable to all other Enka nylon, with the exception that a fluorescent agent is added to the nylon polymer. This is of particular importance because the whiteness is thereby built into the fiber and cannot be removed by normal scouring or other wet processing. The physical properties of Blanc de Blancs nylon yarn are almost identical to regular Enka nylon. A direct comparison of Blanc de Blancs yarn with regular Enka nylon is given in Table 1.

in retaining color when exposed to ultra violet rays.

Tests have shown that Blanc de Blancs nylon has excellent whiteness retention properties when exposed to normal fluorescent lighting. Girdle fabrics made from this yarn were exposed continuously to normal fluorescent light for four weeks without noticeable loss of whiteness. However, in light which contains excessive amounts of ultra violet rays—such as sunlight and some artificial light—the extra whiteness is seriously affected.

Washfastness

Wash tests conducted with fabrics made from Blanc de Blancs yarn show that the extra whiteness properties are virtually unaffected during normal laundering with standard home washing machines.

Table 1. Comparison of Physical Properties of Regular and Blanc de Blancs Enka Nylon Yarns

Properties	Blanc de Blancs Enka Nylon	Regular Enka Nylor
Yarn size	140/64	140/64
Breaking strength, g/d	4.91	4.94
Denier	139	138
Break elongation, %	37.1	35.8
Residual shrinkage, %	11.8	12.3
Chemical resistance	Compa	rable
Density	Compar	rable
Color, as shipped ¹	Compar	rable
Unwinding tension	Compai	rable
Cross-sectional shape and		
longitudinal appearance	Compai	rable
Melting point	Compai	
Heat-setting characteristics	Compa	

¹ Regular yarn exhibits a faint yellow cast when compared with the blue-white of Blanc de Blancs yarn.

Dyeing Characteristics

Blanc de Blancs nylon was developed primarily for use in products that are not normally dyed. The major volume of foundation and girdle-type garments are sold undyed. For this reason, the extra whiteness exhibited by this yarn is of utmost importance for initial counter appeal. Therefore, developmental work was directed almost entirely to this end.

Some preliminary experiments have been conducted on the dyeing characteristics of Blanc de Blancs yarn. The results of these tests indicate that difficulty can be expected in matching shades and

However, in laundry equipment which is equipped with an ultra violet light, color degradation can be expected.

When exposed to atmospheric gases, Blanc de Blancs yarn was found to exhibit only slight discoloration after two test cycles. A regular nylon yarn which did not contain a whitening agent was appreciably discolored when exposed for an equal amount of time. (AATCC Test Method 23-1957).

Girdle blanks made from Blanc de Blancs yarns were subjected to recoverability tests. The blanks were repeatedly stretched approximately 80% for 5,000 flexes. The fabrics recovered fully to original

dimensions following the 5,000 flexings and a 15-hour relaxation period.

Tests show that fabrics made from Enka Blanc de Blancs yarn do not contain primary skin irritants when tested in accordance with the Draize method. (Draize Irritation Test-animal skin)

Processing Instructions

All indications to date are that Blanc de Blancs yarn processes identically to regular Enka nylon in both yarn and fabric form. Tensions, speeds, presteaming temperatures, heat-setting conditions, and all other processing procedures that are satisfactory for regular Enka nylon are also applicable to Blanc de Blancs.

If the recommended procedures for regular Enka nylon are followed with Blanc de Blancs yarn, a quality product with the additional advantage of extra whiteness can be expected.

New Dyes for Acrylics

American Cyanamid Co. has introduced a new line of dyes for true and modified acrylics that requires no expensive retarders in the dye bath. Called Calcozine Acrylic Dyes, the new colors are said to owe their effectiveness to a different approach to acrylic dyeing. The attraction of the new dyes to the fiber is now controlled through an increase in the number of positive electrically charged dye sites on the indi-

vidual dye molecule.

Five colors—purple, blue, red and two shades of yellow—made up the initial line, with development work proceeding on others. The need for retarders has been eliminated, since the new dyes require only common salt and acetic acid for even exhaust and level dyeings. They are applicable to such fibers as Orlon 42, Acrilan 16 and Verel by the simplest salt and acetic dyeing procedure. Creslan 58, Dacron 64 and Acrilan 3400 can also be dyed with good effectiveness, with suitable dyeing assistants or pre-treatment. Extensive use in blends is anticipated, since the new compounds show little tendency to stain cellulosic or animal fibers. For further information write the editors.

Non-Yellowing Resin

A new resin designed to give wash-and-wear properties to cotton and rayon fabrics has been introduced by Dexter Chemical Corp. It is said to be low in cost and not to cause yellowing of fabrics on which it is used. The new resin is said to be based primarily on a chemical reaction involving urea, formaldehyde and methyl alcohol.

Tradenamed Dextraset, the new resin will not cause yellowing either when a fabric on which it is used is pressed with a hot iron or treated with chlorine bleaches, according to a spokesman for the manufacturer. Several large manufacturers of resin treated goods are reported to have used Dextraset for more than a year with satisfactory results for both woven and knitted fabrics.

Effect of Resins on Cottons

The broad, principal conclusions of a three-year research program conducted at Fabric Research Laboratories, Inc., under a U. S. Agriculture Department contract, were recently summarized in a talk by E. J. Stavrakas of the FRL staff. They include:

Research has demonstrated that subtle changes in fabric geometry crn improve the tear strength of lightweight, resin-treated cotton fabrics without damaging other properties, changing the basic fabric types, or adding cost. In certain cases, variations in fabric structure can result in greater resistance to tear in a resinated fabric than in its non-resinated counterpart. Similar efforts to improve the tear strength of heavyweight cotton fabrics have not been as successful. Also, scouring frequently has a much more deleterious effect on tear strength than resinfinishing and could be a profitable area for concentrated study.

Water Conditioner

Yellowing of clothing in home laundering can be eliminated by the addition to the washing procedure of Calgon, a water conditioner, Dr. E. Walter reports in "Melliand-Textilberichte," a West German textile journal, according to the Calgon Co., a division of Hagan Chemicals & Controls, Inc. Yellow streaks or rings on bed linen and stains on blouses and shirts, for countless years attributed to everything from sunlight to hot irons, actually are caused by skin oils, Dr. Walter explains. Laundering of garments and linen in hard water will not remove these skin oils which combine with calcium and iron present in the water to form insoluble soap curd. Calgon in the water, it was stated, will tie up calcium and iron, prevent soap curds and allow the washing detergent to completely remove the soil and skin fat deposits from the garments. For further information write the editors.



Scholl Quick Dryer

Cosa Corp. has introduced the Scholl "Secomat" quick dryer for all types of dyed yarns, synthetic or natural. The dryer is a semiautomatic and comes in two units. The first is a centrifuge for moisture extraction while the second unit completes the drying process by forcing steam-heated, dry air through each spool of yarn, from the inside, out. Average drying times range from 1/2 hour for synthetics and 21/2 hours for spun rayon. A photo-electric eye scans the entire process to prevent any chance of accident. For further information write the editors.

Cosa Corp.s' Scholl "Secomat" quick dryer for dyed yarns.

Demand for Creslan is growing because of its competitive advantages, because of its versatility, and because of its association with many of the greatest names in merchandising. Discover the exciting possibilities of Creslan in your mill. Write for TECHNICAL DATA BULLETIN containing full description of Creslan qualities and properties. Creslan acrylic fiber is a product of American Cyanamid Company, Fibers Division, New York.

Offices: 111 West 40th St., N. Y.; 3333 Wilkinson Blvd., Charlotte, N. C., 2300 South Eastern Ave., Los Angeles, Cal.; 40 Fountain St., Providence, R. I.

NEST OF HE ACRYLICS

C

f

For the DYER

and FINISHER

New Cationic Softener

Onyxsan FW-25%, a new cationic softener, is being marketed by Onyx Chemical Corp. The product, Onyx reports, will disperse in tap water, thereby eliminating the necessity of boiling or cooking with open steam. White in color, Onyxsan FW-25% has high resistance to discoloration. For further information write the editors.

Waterproofed Outerwear

"Winerized," a new waterproof process reported to permit hand and machine washing of outerwear, has been introduced by Winer Sportswear, Inc., for the 1960 winter selling season. The process, developed by the Aldan Rubber Co., is reported to make outerwear garments waterproof and windproof. The Winer line includes snowsuits, jackets and ski pants for infants, children, men and women.

Booklet on New Resin

Technical data on National Starch and Chemical Corp.'s new polyvinylidene chloride latex, Resyn 3600, have been compiled in Technical Bulletin No. 340 by the company's Resin Division. Resyn 3600 is an aqueous dispersion of vinylidene chloride copolymer. The booklet fully describes its physical and chemical properties, both in latex and film forms. Orders for experimental amounts are now being taken by the company. For free copies of the bulletin write the editor.

Synthetic Fiber Dyeing

General Aniline & Film Corp. has published a revised, expanded and up-to-date edition of "Dyeing Synthetic Fibers." The 86-page brochure contains material relating to the most important manmade textile fibers now commercially available, including several recently introduced brands. Each fiber is discussed in detail, giving brand name, chemical type, physical and chemical properties, and end uses. For copies write the editors.

Surface Active Agents

A new, illustrated booklet describing the cost saving advantages, qualities, characteristics and uses of surface active agents has been published by Allied Chemical's National Aniline Division. The agents, known as surfactants, are vital to all kinds of wetting, dispersing, emulsifying, penetrating and cleaning processes. For copies of the booklet, write the editor.

Improved Wool Felts

A chemical treatment that shrinks wool fibers may be the basis for improved manufacture of wool felts, according to the U. S. Department of Agriculture. USDA scientists reported that soft wool felt treated with a hot solution of dimethyl sulfoxide became dense and hard within a few minutes. Relative hardness of the felt can be controlled. Felt industry men who have examined samples of felt treated with dimethyl sulfoxide indicated the treatment offers sufficient promise to justify testing under commercial conditions.

Putnam Textile Chemicals

Putnam Chemical Corp. has developed three new products for use in the textile processing industries. The first is Chlorite Stabilizer BASF, an auxiliary for the sodium chlorite bleaching of vegetable and synthetic fibers; it is a yellowish white, readily soluble powder with good resistance to hard water and acids.

The second is Perstabilizer BASF and Perstabilizer BASF powder, for use in caustic alkaline peroxide bleach baths; the powder is twice as strong as the liquid.

The third, Kieralon B, is an auxiliary for textile finishing. It is a light brown, viscous liquid with neutral reaction. For further information on the Putnam products write the editors.

New Textile Lubricant

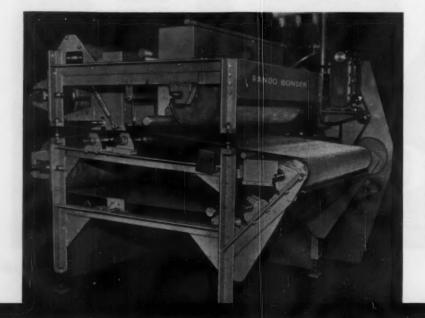
Proxocream, a new textile softener, lubricant and antistatic agent, has been developed by Procter & Gamble Co. Outstanding sewability is a feature of the new product. Proxocream, available as a concentrated white paste, is nonionic in character and has good scorchresisting abilities. Since it is nonchlorine retentive, it does not affect dye shades or fading rate. For further information write the editors.

Softener, Napping Aid

Nopco Chemical Co. is producing a new nonionic softener and napping aid, Nopcotex NP-25. The company recommends its use on cotton and synthetic fabrics. As a pure finish it has excellent resistance to yellowing. It also functions as lubricant, aiding in the cutting and sewing operations. For further information write the editors.

New Type Saturator

Rando-Bonder, a new type saturator said to offer advantages in the manufacture of nonwoven fabrics, has been developed jointly by Curlator Corp. and Celanese



Fibers Co., a division of Celanese Corp. of America. The saturator makes possible the rapid, uniform saturation of nonwoven webs, without drafting or distortion, and provides flexibility and ease of operation said not to be found in existing equipment. The new machine can be used in the production of a wide range of nonwoven fabrics, filters and related products.

The machine makes use of two stainless steel endless wire screens so arranged that the bottom screen gives complete support to the web, while the top screen compresses and holds the batting in place during the web conditioning and saturation process. According to Gordon Harvey, Curlator sales manager, a number of companies have expressed interest in the new saturator because it makes for economical and efficient production of nonwoven products. For further information write the editors.

Curlator's new type saturator "Rando-Bonder".

SOFTENERS FOR THE NEW AGE IN TEXTILES

To meet the higher standards being demanded by the consumer...try

SOFTYNE SPECIAL

A nonionic softener giving a smooth, full hand and having high scorch-resistance. Imparts excellent lubricating, anti-static and sewability characteristics. Applicable to all natural and synthetic fibers. Applied in short bath to yarns, threads, piece goods and knitted goods.

SOFTOLENE A-

A polythylene wax emulsion recommended as a lubricant and softener for all textile fibers.

As a softener in resin finishes, it markedly improves tear strength of treated cottons and gives excellent gloss in schreinering operations. Stable with all resins and catalysts.

For samples and literature, write to



the Hart Products Corporation

1440 BROADWAY, NEW YORK 18, N. Y.

Works and Laboratories, Jersey City, N. J. Hart Products Company of Canada, Ltd., Gueiph, Ontario

or

ea le

Fie

a

r

n

GLASS FIBERS

How they are made Where they are used

By H. M. Rogers, Lockwood, Greene Engineers, Inc.

Contrarry to common belief, fiber glass is not hard, nor is it transparent or unbendable. It is glass in the form of fine, filmy fibers, the finest of which look and feel much like silk. It can be twisted and plied into yarn and dyed and woven into cloth much the same as is done with cotton, wool, or any other textile fiber. It can also be gathered into fleecy mats and fabricated into blankets of various thicknesses and densities for thermal and acoustical insulation. Further, it can be made as roving or chopped strand for reinforcement of plastics.

The basic manufacturing method of producing fiber glass begins with the accurate weighing, inspecting and mixing raw materials, the proportions of which are approximately one-third sand, one-third limestone, and one-third clay, all of a very high purity and quality. There are less small quantities of additives such as feldspar and boric acid. The source of these raw materials for the plants we know about are: sand from Eastern North and South Carolina; limestone and feldspar from Pennsylvania; boric acid from the West Coast; clays from Georgia. These raw material batches are melted down in furnaces which are precisely and carefully controlled by instrumentation.

Production Methods

There are two types of furnaces and two methods of producing glass fiber. One, called the direct melt method, reduces the raw material batch to molten glass and the glass is then drawn into thin streams through a group of perforated bushings from this individual furnace. The other method is, first, the making of marbles by somewhat the same method as the direct melt operation, except using larger furnaces with the end product being the marbles. These, in turn, are stored and conveyed to electrically heated bushings, where they are melted and drawn into filaments. From this point, there are two major steps, depending on the type of glass fiber desired.

The textile yarn is a continuous filament in which the fibers can be drawn out as fine as 1/300 the thickness of a human hair. From one cubic inch of glass, a fiber can be drawn to a length of approximately 400 miles.

In the manufacture of fiber glass blankets for thermal and acoustical insulation, the fibers are gathered as a mass on a conveyor. Fiber length and diameter are controlled by temperature and viscosity of the glass, the orifices through which the molten glass flows, and the air pressure in the forming area. The thickness of the blanket of fibers is controlled by the speed of the conveyor. This material, sprayed with

a binder, is the insulating material in your hot water tank, refrigerator and automobile.

In the continuous filament process, many fine streams, or filaments of molten glass emerge continuously from the orifices, combine to make a single thread, and are gathered up by high speed winders. Since the winder revolves faster than the glass is flowing from the furnace, or bushing, tension draws the glass, while still molten, pulling it out into microscopic filaments at a rate of over two miles per minute. These continuous filaments are later processed into fiber glass yarns on standard textile twisting machinery. Among the major users of fiber glass yarns are Stevens, Burlington, United Merchants, and Chicopee—the latter for insect screening.

Cloth made of fiber glass yarn or the yarn itself chopped into short lengths or strands, and coated with a water repellent bond provides the strongest of all reinforcements for plastics now being used in so many applications.

Major End Uses

Textile glass fiber was first used in the woven state as curtain and drapery materials. Inherent characteristics of glass fibers have made such curtains and drapery resistant and virtually impervious to fire, weather, mildew, dirt and water. An important feature, too, is that they can be dyed or printed in colored and decorative patterns.

Experience gained in weaving fiber glass for decorative fabrics has led to its application in a variety of uses such as coated fabrics for lined interior of aircraft, varnished tapes, and sleeves for electrical insulation. More recently, woven textile fiber glass has been accepted for use in insect screens for home and industrial use. Because of its resistance to corrosion, textile glass fiber screening has advantages over other materials, particularly in the coastal areas of the country.

One of the largest growths in the fiber glass industry is expected to be in markets where textile glass fiber is used as a reinforcing agent for plastics. During World War II, glass fiber-reinforced plastics were substituted for other structural materials such as steel and aluminum then in short supply. Today, instead of being substitutes, such materials are used in the manufacture of many consumer, industrial and military products. Their acceptance has grown because of the unique combination of physical properties not found together in other structural materials.

As to the future, what are some of the avenues of exploration which the industry is pursuing in its research efforts? There are several areas where the fiber glass future is being created—in basic research labor-

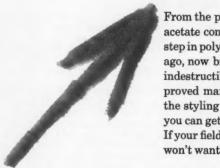
(Continued on Page 44)

This article is derived from a paper presented at the American Glass Association Textile Processing Symposium, Greensboro, N. C., September, 1959.

NOW...KODEL IN BROWN AND NAVY



BEFORE... SOLUTION-DYED COLORS IN A



From the pioneer in solution-dyed acetate comes a major pioneering POLYESTER

step in polyester fibers. Eastman, after announcing Kodel in black a few months ago, now brings you Kodel in brown and navy. For the first time you can get indestructible color-fastness in a polyester fiber. The new navy and brown have proved many times as fast as colors dyed by any other method known. And the styling possibilities are even more challenging! With solution-dyed colors you can get more dimension, more patterns, more color effects than ever before. If your field is woolen, worsted, rayon or cotton blends, this is a development you won't want to miss. And solution-dyed Kodel is in commercial production now!

Kodel is the trademark for Eastman polyester fiber



OMPANY 260 MADISON AVENUE

EASTMAN CHEMICAL PRODUCTS. INC., SUBSIDIARY OF EASTMAN KODAK COMPANY, 260 MADISON AVENUE, NEW YORK 16, N. Y.

atories, process development and product development laboratories, and by customers. The fiber glass industry is studying glass in many forms; efforts are being made to develop entirely new formulations with different characteristics. The industry is constantly searching for new ways of making both new and old products, trying to improve existing products, and invent new ones. For example, it is generally felt that reinforced plastics, as they now exist, have not yet found their proper place. There are more possible uses for them than one can count, and this is an important facet of the fiber glass industry's future.

Of particular interest in future development is the reinforcing of metal with glass, creating with glassmetal combinations, conditions which will permit metals to retain their strength under high heat.

What of the plants which produce this material? What size units are they and what do they require in the way of housing and services? How do they come to be located where they are in the first place?

Several years ago, the first fiber glass plant constructed in the Southeast was built by Owens-Corn-

ing Fiberglas Corp. at Anderson, South Carolina. The most recent plant now in production is the Pittsburgh Plate Glass Co.'s fiber glass plant at Shelby, N. C. Plant location studies with final site selection embraced many considerations, including available labor, transportation of raw materials to and finished products from the plant, utilizing both rail and highway; water supply and waste disposal facilities; electricity; and that major factor—so important to this type of operation—fuel in the form of natural gas.

These are multi-million dollar plants of one-story construction, except for the batch houses and furnace halls, and range in size from 350,000 sq. ft. on floor area to approximately 450,000 sq. ft., and are mostly air conditioned. These plants' glass furnaces will produce anywhere from 25 to 50 million pounds of yarn per year, employing the direct melt and marble melt systems of making continuous yarn. This will be twisted and plied on ring twisters specifically engineered for these plants. The yarn is converted into plied and twisted textile yarns for weavers, paper and plastic reinforcement, and cut fiber for other uses.

New Tire Yarns Studied

A research and testing program for a tire that will combine exceptionally long life with smooth and quiet riding properties has been initiated by Goodyear. The research involves five synthetic fibers for use in new cords which are built into test tires. The tires are then put through severe punishment on special machinery and on high speed test tracks, and run thousands of miles over regular road surfaces.

All the fibers, which fall under three general classifications—polyester, polyvinyl and polyamide—show great promise, according to Dr. R. P. Dinsmore, vice president in charge of Goodyear research. In the polyester group, Goodyear is studying Vycron, Terylene and Dacron. Goodyear last year opened a new polyester plant at Point Pleasant, W. Va., which has an annual capacity of 10 million pounds of Vitel, the resin used by Beaunit Mills, Inc., in making Vycron fiber. Terylene is a product of Imperial Chemical Industries, Ltd., and Dacron is made by Du Pont. Dinsmore said the major advantages of the polyester fibers are uniformity and dimensional stability.

Vinal, the fourth fiber, is a polyvinyl developed in Japan and now licensed exclusively to Air Reduction Chemical Co. for U. S. manufacture. Vinal is reported to have excellent resistance to separations from heat and speed and good adhesive properties.

HT-1, the fifth fiber, shares the polyamide family

with nylon and is made by Du Pont. It has a melting point of 600 degrees F., Dinsmore said, "compared with 482 degrees for the fiber used in today's premium replacement tires." The heat-resistant factor will be of "tremendous importance to the tire industry once we harness it into application," Dinsmore added. "We have made encouraging progress in this direction."

Dinsmore pointed out that in any use of new fabrics for tire building, adhesion is one of the prime considerations. A second important step is making the adhesive layer bond "on the other side" with the rubber in the tire. "With each of the new fibers," he said, "we have found many promising leads toward solution of the adhesion problem."

Sonoco Acquires Dixie

Sonoco Products Co., Hartsville, S.C., has acquired the equipment and facilities of Dixie Paper Tube Co., Richmond, Va., according to a recent announcement made jointly by James L. Coker, president of Sonoco and Benjamin P. Alsop, president of Dixie. Eugene W. Mitchell, superintendent of the Dixie plant, is continuing in that capacity under the new Sonoco management.

For the present, the plant will continue to operate in the same location, producing paper tubes principally for Reynolds Metals Co. which are used for Reynolds Wrap aluminum foil and Reynolon. It is expected that additional equipment will be added at a later date in order to supply paper tubes in a

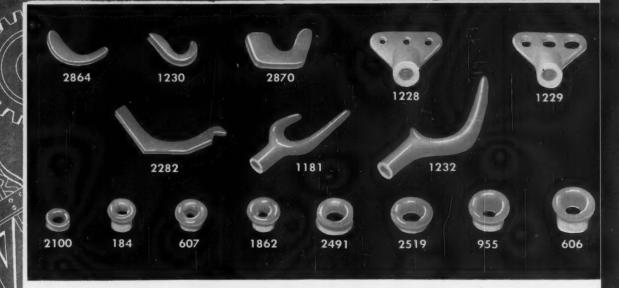
full range of sizes.

Sonoco Products Co. was organized in Hartsville, S.C., in 1899 by Major James L. Coker. The company now operates plants in ten states and also in Canada and Mexico with affiliated companies in England and Australia. Principal products include paper cones and tubes for the textile industry; paper cores for foil, film, newsprint and other papers; fibre forms for concrete columns; fibre heating duct; folding boxes; fibre cans and containers; and bituminized fibre pipe for drain and sewer lines.



THROW-AWAY PILLOW CASES—Made of nonwoven material produced by Kimberley-Stevens, these pillow-cases made by Acme Paper Products Corp., save laundering costs for airlines.

MACHINERY and EQUIPMENT SECTION



Mitchell-Bissell "BLUE SATIN FINISH" Porcelain Guides

For Circular Knitting Machines and Stop Motions

"BLUE SATIN FINISH"*, the original satin finish for Porcelain Guides, was perfected and introduced by us to the Textile Industry in 1936, with the blue color adopted only as a means of product identification. This finish provided ... and still provides ... a surface having far greater resistance to thread wear than available in any other porcelain guide.

"BLUE SATIN FINISH"* Porcelain Guides were used on the *first run* of Nylon Yarn, and have since been considered standard equipment by leading processors of Nylon,

Dacron, Orlon, Rayon and all the other synthetic fibres.

Because there are other "blue" guides on the market, it is only by specifying the complete name . . . MITCHELL-BISSELL "BLUE SATIN FINISH"* PORCELAIN GUIDES . . . that you can be sure of getting the genuine, wear resistant finish that makes these guides so far superior in service and economy.

MITCHELL-BISSELL "BLUE SATIN FINISH"*
PORCELAIN GUIDES are available in thousands of standard shapes, or made to your specifications. Guides illustrated above are shown in approximately actual size.

*Reg. U.S. Pat. Office.



MITCHELL-BISSELL CO.

TRENTON, NEW JERSEY

Southern Representative: HOLT ASSOCIATES, INC., Greensboro, N. C.

NEW

MACHINERY

EQUIPMENT



New Checking Device

Slip-Not Belting Corp. is marketing a new checking device, Nucheck, which is said to run looms faster, longer and boxes better with less power, according to actual weaveroom tests. Nucheck's free-pivoting action is reported to eliminate "Monday morning" start-up problems and breakage. A single wrench is all that is needed to attach the checking device to X, X-2, XD, XL, S-5, S-6 and many other looms. For further information write the editors.

New Filling Builder

All manufacturing and selling rights for the new Winslow automatic filling builder have been purchased from Winslow, Inc., by Southern Machinery Co. James Stuart, president of Southern Machinery, reports that the Winslow is a completely automatic spinning frame filling builder that will wind any type of quill for any make of automatic loom. It is a compact unit adaptable to all spinning frames, and eliminates the need of rewinding filling in order to make use of the Draper automatic filling magazine, Stuart pointed out. Al Winslow, developer of the new filling builder, states that this completelyenclosed machine can wind a denser quill that will have from 15% to 20% more yarn. For further information write the editors.

New Metal Detector

American Twine & Fabric Corp. is marketing a new contact-type metal detector that has been developed for fabric to prevent damage to delicate machinery and equipment. The unit consists of an electric circuit which turns off the machine the instant contact with any metallic object in the web is made. A feature of the unit is that it can be set to pass metallic yarn but will stop the machine when contact is made with a heavier object. The device sells at from \$1 .-300 to \$1,500, depending on the width and the particular job it is designed to do. For further information write the editors

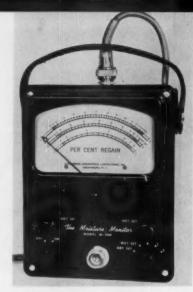
Tension Weighting

Dixon Corp. has introduced into the spinning drafting field a new method of applying top roll pressure, known as tension weighting.



Close-up of Tension Meter (right) and Re-

Some of the features of the new weighting system include a 100-pound pressure range, easy-to-change pressure control, permanent and tamper-proof pressure settings, elimination of roller beam attachments. The new system can be used with nearly every type of drafting system. Instead of springs, weights, levers or magnets, Dixon uses a tension bar, which exerts pressure through deflections. For further information write the editors



Portable Moisture Meter

Strandberg Engineering Laboratories, has introduced its model M-200 portable moisture meter. The new monitor is designed to give immediate readings of moisture in textile fibers and blends without the aid of bone dry tests, correlation charts or special settings. Three operating positions, easily selectable on the front panel, cover every important application, from warps and fabrics to raw stock, moving or standing, including synthetic blends. For further information write the editors.

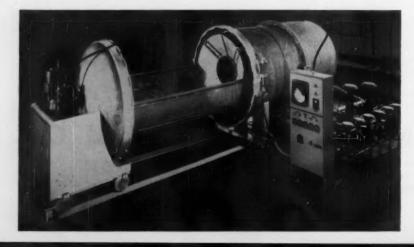
Screenprinting Machine

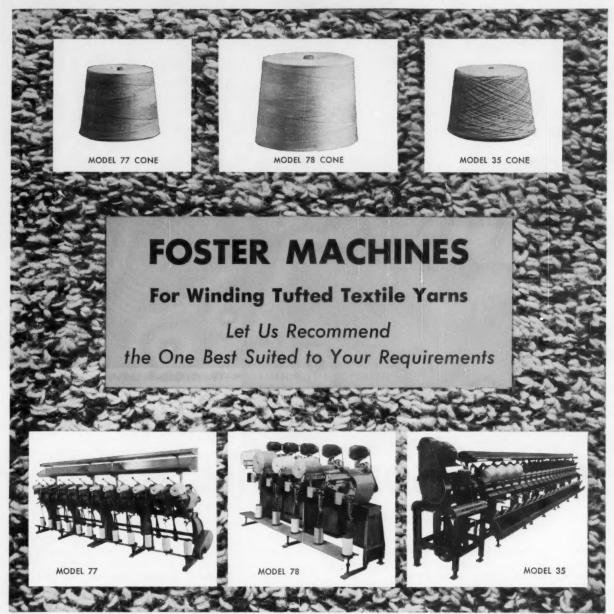
Precision in printing all types of intricate designs in as many as 19 different colors on textile fabrics at high production speeds—averaging 853 yards per hour-is said to be the major advantage of the new screenprinting machine manufactured by Stork Co., a subsidiary of Stork Bros. Royal Dutch Engineering Works in the Netherlands. Equipped with "Micromatic" automatic repeat control, the Stork installation consists of a cloth feeding device, the automatic screenprinting machine, a platform with color containers and a drier, all of which are fully automated and controlled mechanically by means of one cam disc. Cosa Corp. is the agent of Stork textile machinery in this country. For further information write the editors.

Automatic Fiber Setter

A new 1,000-pound capacity fiber setter, for processing synthetic fibers in skeins, on bobbins or as sliver, has been developed by Turbo Machine Co. The new machine, with a cylinder or shell six feet in diameter and 10½ feet long, has more than three times the capacity of other Turbo fiber setters. Bibb Manufacturing Co., Macon, Ga. has purchased the new model, FS-1000, for setting carpet yarn in skeins. For further information write the editors.

Turbo Machine Co.'s Model FS-1000 automatic fiber setter.





Each of these machines is designed for a different situation. Each does a highly creditable job within its scope. Here are the details:

MODEL 78 — This machine (built in 5 spindle units) produces 8" to 10" traverse, precise wind cones up to 16" in diameter and weighing up to 35 lbs. each. Ball bearing spindles are individually motor driven at speeds up to 800 R.P.M. It has controlled slow start and spindle brake, heavy duty belt gainer with hand wheel adjustment (or positive gear gainer, if desired), positive size stop, electric drop wire and expansion type cone holders, with handle control, for easy donning and doffing. Will wind overend from bobbins or from swifts, reels or unrolling devices.

MODEL 77 — Built in 6 spindle sections, produces 4" to 8" traverse, precise wind cones up to 10" in diameter and weighing up to 14 lbs. each. Ball bearing spindles, individually belt driven by one motor, run at speeds up to 1100 R.P.M. It has a positive, long wearing package brake and positive solid tapered pulley belt gainer. It will wind overend from bobbins, or from swifts, reels or unrolling devices. 90° buildup from face of cone prevents broken back or under-wound packages.

MODEL 35 — Built in units of 10 spindles to 80 spindles. Produces open wind 8" traverse cones up to 11" in diameter and weighing up

to 9 lbs. each. Winding speeds from bobbins is from 180 to 250 Y.P.M. and from skeins 100 to 150 Y.P.M. Standard taper cone holders are 7° 22%' and 3° 51'. Package brakes and disc waxing attachments are extra. Can be equipped to wind from swifts, etc. as well as from bobbins.

Write for Model 78 bulletin A-98A, Model 77 bulletin A-99, or Model 35 bulletin B-46A.

FOSTER MACHINE COMPANY

Westfield, Massachusetts, U.S.A.

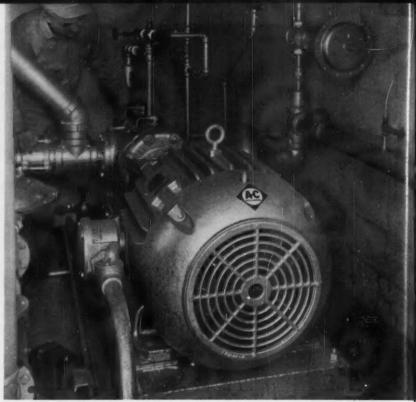


Monkey all

Southern Office, Johnston Bldg., Charlotte, N. C. Canadian Representative, Ross Whitehead & Company Limited, 2015 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ont.

European Representatives, Muschamp Textile Machinery (Sales) Limited, Eider Works, Wellington Road, Ashton-under-Lyne, Lancashire, crapland. By F. C. Osterland
ALLIS-CHALMERS MFG. Co.

Here is practical advice,
based on wide experience,
to guide you in the choice
of electric motors



BIG MOTOR, SAFE INSTALLATION—This 40 horsepower, totally enclosed motor in a Southern mill drives a compressor to provide propane gas for heating and cloth singeing.

WHICH MOTOR WILL IT BE?

THE average plant engineer is often faced with the question, "Which polyphase motor will best meet my requirements for a given application?"

Since most textile mills today use induction or synchronous motors, this article will concern itself with those types of machines. Each has different starting and operating characteristics which lend themselves best to certain conditions.

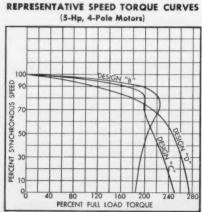
Important factors which enter into motor selection include (1) requirements of the driven machine, (2) ambient conditions, (3) type of electrical power available, and (4) the best motor attainable with respect to initial and future costs, maintenance requirements and mounting.

Requirements of the machine to be driven involves establishing the motor size, giving consideration to the required operating speed (constant, adjustable or variable), and torque requirements.

The starting or locked rotor torque of any motor is the minimum torque (turning force) which it will develop at standstill with rated voltage and frequency applied to its terminals. Pull-in torque of a synchronous motor, which in reality starts as an induction motor, is the torque required to pull its load into synchronism at rated voltage and frequency when dc field excitation is applied. The turning force

a motor can give without stalling is known as breakdown torque. Full-load torque of a motor is the force needed to produce its rated horsepower at full-load speed. In pounds at one-foot radius, it is equal to the horsepower times 5250 divided by the full-load speed. Representative speed torque curves for a 5-hp, 4-pole motor are shown in Fig. 1.

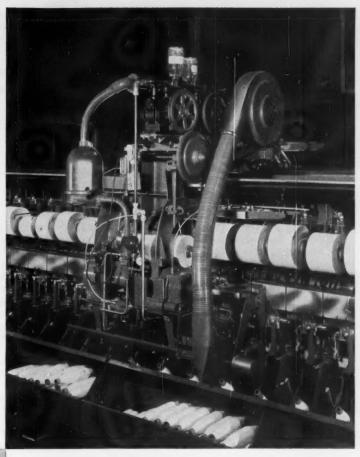
Fig. 1

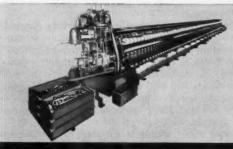


(Continued on Page 50)

NEW TYPE "F" **AUTOMATIC SPOOLERS**

FOUR-COUNT OR **MULTIPLE-COUNT**







WIND CHEESES OR 6° CONES

The outstanding features of previous models are also available in the new Type "F" and "FF" Automatic Spoolers - arrangements to wind either straight cheeses or 6° cones, and arrangements for either one count on the whole machine, a different count on each of the four "quarters" of the machine, or a variety of counts extending to a different count in each "bay." These arrangements are planned when the machine is ordered, and are made when the machine is assembled on the floor. The advantage is that the ordering mill will get an Automatic Spooler of maximum versatility, exactly tailored to its needs, and capable of functioning at greatest efficiency and lowest cost. For further details, we suggest you discuss your situation with your Barber-Colman representative.

AUTOMATIC SPOOLERS . SUPER-SPEED WARPERS

0

FRAMINGHAM, MASS., U. S. A GREENVILLE, S

MUNICH, GERMANY

INDIA

MEXICO

BRAZIL

JAPAN

MANCHESTER, ENGLAND

PAKISTAN

PAKISTAN

ociated Agencies Micro Ltd. Kathari Building

The electrical characteristics for squirrel cage induction motors from ½ to 200 horsepower are as follows:

they have lower losses due to less material used in their construction. Except for the larger sizes, highvoltage motors of 2300 volts and over are less effi-

NEMA Design	Locked Rotor Torque	Break Down Torque	Locked Rotor Current	Slip at Rated Load
В	Normal	High	Low	Less Than 5%
С	High	Normal	Low	Less Than 5%
D	High	High	Low	5% or More

 $^{\circ}$ Design B motors with 10 or more poles may have slip slightly greater than 5% .

Ambient conditions fix the type of enclosure, kind of insulation and whether separate ventilating equipment is needed. Types of available enclosures include open, drip-proof; totally-enclosed, non-ventilated; totally-enclosed, non-ventilated, explosion proof; totally-enclosed, fan-cooled, and totally-enclosed, fan-cooled, explosion-proof machines. Improvements in the design of insulation in open motors and the availability of better enclosed types have largely eliminated the need for splash-proof enclosures.

The highest observable temperature permissible for open machines based on American Institute of Electrical Engineers standards measured by a thermometer is 90 C for Class A, 110 C for Class B, and 150 C for Class H machines. The limiting observable temperature for totally-enclosed motors is 5 C higher than for open machines.

Motor selection should take into consideration answers to such questions as: Is the power source alternating or direct current? Could plant power factor be improved? Are there any power company current limitations?

Power factor is the ratio of actual power developed to the product of the voltage and current flowing in the circuit. In alternating current circuits, the voltage and current are continuously alternating from a plus to a minus value. When voltage and current have maximum positive and negative values at the same time, they produce the greatest amount of power. When the current lags or leads the voltage, the resultant power is less than maximum, depending upon the amount of lag or lead.

Where power contracts make it advisable to consider power factor corrections, synchronous motors are usually preferred. However, because of their high starting current requirements, they may not be acceptable where power supply limitations require the user to keep the line surges low. Such surges can be held to a minimum by installing a clutch between the motor and the load, thereby permitting the motor to start without load.

Synchronous motors, in addition to their favorable power factor correcting characteristics, have high efficiencies. They are highest at unity power but are still comparatively high when an 80% power factor motor is used.

Efficiency varies with the load placed on the motor. It is usually highest when the motor is fully loaded and decreases as the load lessens. It is also affected by variations of voltage and frequency.

Large motors are more efficient than small machines. For the same horsepower ratings, high-speed motors are more efficient than low speed because cient than low-voltage machines of the same ratings because of the greater space required for insulating the windings.

Two types of induction motors are in wide use today. They are the squirrel cage, most economical for most industrial applications, and the wound rotor motor.

SA

fila

0

m

The squirrel cage motor has comparatively good starting and operating characteristics. It lends itself to modifications which can incorporate such characteristics as high starting torque, explosion-proof enclosures, etc. These motors are classified by the National Electrical Manufacturers Association (NEMA) as follows:

Class A—Normal torque, normal starting current.

Class B-Normal torque, low starting current.

Class C—High torque, low starting current.

Class D-High slip.

Class E—Low starting torque, normal starting current.

Class F—Low starting torque, low starting current. In textile mills where several smaller motors drive individual machines or small groups of machines, the Class A type squirrel cage motor is generally used. A standard squirrel cage motor will develop between 100 and 150% starting torque, depending on its speed rating. Where starting torque of between 200 and 250% is needed, a Class C motor would be necessary.

The wound rotor motor is capable of developing high starting torque (at least 200%) at relatively low line currents. It is well suited for heavy starting duty where large starting torques are needed or in other applications where frequent starting may overheat some other type of motor. It is also particularly well suited for applications requiring adjustable speed drives.

Efficiency of the wound rotor motor, with all of the external resistance cut out, approaches that of the squirrel cage motor. Because of this, and particularly because of its high starting torque-low starting current characteristics, it is desirable for applications that use one large motor for operating the entire plant. The wound rotor motor, however, has relatively poor efficiency and power factor characteristics when operating at reduced loads and reduced speeds.

The simplicity of squirrel cage motors permits economical enclosures suitable for almost any locations. That is not as true for wound rotor or synchronous motors although slip rings can be enclosed or even made explosion-proof at additional cost.

(Continued on Page 53)

See SANDOZ when dyeing these new synthetic fibers and blends for knitted outerwear

In the complex of new synthetics, novelty and blended yarns for knitted outerwear, SANDOZ stands ready to supply the formulations and procedures you need.

Here in the files at SANDOZ we have many thousands of tried and proved formulae ...successful formulations for heat textured filament nylon—whether yarn or piece dyed; for blends of fur, mohair, lamb's wool, or wool—and for the newer synthetics—light and medium shades on Orlon* 42, Orlon Sayelle, and Orlon Cantrece, Acrilan† and Acrilan 16, and many other combinations you will encounter.

Our color technicians are always ready to assist in solving customers' problems. So save time, call Sandoz.

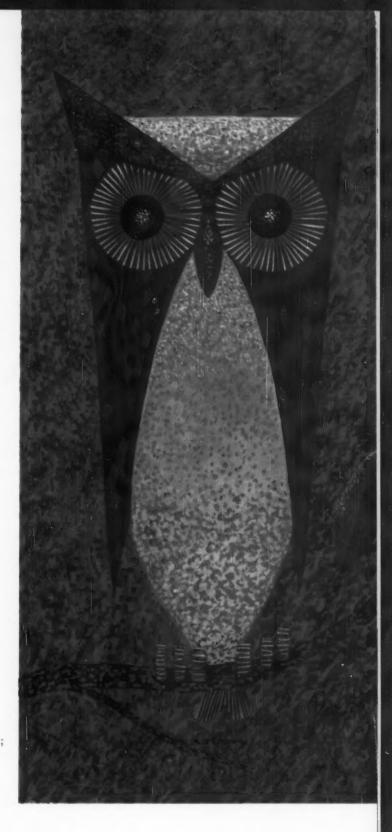
T.M. Dupont Acrylic Fiber Products. †T.M. Chemstrand Corp.

Sandoz, Inc., 61-63 Van Dam Street

New York 13, N. Y. Algonquin 5-1700

District Offices: Charlotte; Cincinnati; Fair Lawn, N. J.;

Hudson, Mass.; Los Angeles; Philadelphia







What is YOUR Carding Problem?

It's not so much the BIG problems in the card room we're asking about. They're quickly recognized and get immediate attention.

But it's the pesky little ones . . . those that cause only occasional trouble. You're more apt to put them off "for a little while," and yet they are eating up useful production time.

It could be a little slippage on the roll,
or improper alignment of the teeth, due to jams,
or points not properly ground,
or the need for a special clothing for synthetic fibres.

Little troubles can become BIG problems in time.

Check them now, with the help of a Tuffer Sales Engineer. He has the experience of over 90 years behind him—in both card clothing research and production.

Call or Write to Our Home Office for Immediate Attention—No Obligation

Card Clothing for Woolen, Worsted, Cotton, Asbestos

- and Man-made Fibers
- Napper Clothing and Brushes
- Top Flats re-covered and extra sets loaned at all Plants
- · Lickerins rewired at Southern Plants
- Hand Stripping Cards

HOWARD BROS.

WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga., Gastonia, N. C., Greenville, S. C.

Direct Representation in Canada

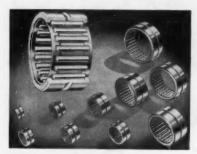
Which Motor? (Continued from Page 50)

In general, for usual requirements up to about 100 horsepower, which would include most of the smaller and intermediate size motors in textile mills, a squirrel cage induction motor would be the usual selection. For loads from 100 to 300 horsepower, a wound rotor or synchronous machine might be a better choice, depending on where or how it were to be used. Loads over 300 horsepower most likely could use a synchronous motor to better advantage.

Equipment builders frequently use what they

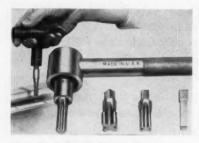
think is the best motor for the service intended. Often, however, the selection of the drive motor is left to the plant engineer. Where apparatus is subjected to unusual service conditions, such as vapor or excessive splashing or dripping, as may be encountered in parts of dye houses or bleacheries, low-voltage motors with special insulation may be desirable.

Where questions arise as to suitability, it is suggested that the motor manufacturer or distributor be consulted to assure selection of the most efficient and effective motor.



Roller Bearing Cage Design

A new series of channel-shaped outer ring roller bearings introduced by The Torrington Co. features a new, patented cage design. Utilization of the new design permits application of the bearings at speeds higher than those attainable with full complement type, Torrington reports. The bearings, made in sizes ranging from 34-inch to 4-inch bore, are designated as series HJ, and may be applied directly to hardened and ground shafts or used with inner rings which also are available. For copies of Catalog 359 describing the new bearings, write the editors.



New T-C Quoin Wrench

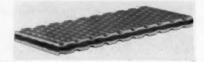
Simco Co. has placed on the market its new T-C (torque-controlled) quoin wrench, said to eliminate breakage of quoins caused by overtightening. As soon as proper tightness is reached, the wrench will slip. Tension at which slippage will ocur is set at the factory but it may be changed by a simple adjustment in the handle. The wrench is available in the conventional "T" shape and in the "L" shape. For further information write the editors.

Screen Printing Machine

The Reggiana Meccanofilm, a fully automatic screen printing machine, is being marketed by Lendt & Co., representative for the device in the U.S.A. The machine can be used for printing a wide range of fabrics from sheers to heavy drapery cloths, Lendt reports. Of rugged construction, and simple to operate, it has individually motordriven printing heads. Precision setting of screens and repeat makes a tolerance of 1/10 millimeter possible. The fabric is automatically pasted on the continuous printing blanket, and automatic washing and drying of the printing blanket also is provided. Standard printing width is 68 inches, with production speeds of up to 800 yards per hour. For further information write the editors.

Checks Vibration

Vibra-Check, an anti-vibrational material to be placed under the



base or feet of machines to prevent their transmission of vibration and noise to surrounding areas, is being produced by Lowell Industries, Inc. Actual service conditions with Vibra-Check are reported to eliminate up to 90% of vibration. The new material is said to be simple to install; no lagging or cementing to the floor is necessary. Vibra-Check's high-breaking point of 7500 psi, its dimensional stability and high-impact flexural and tensile strength, is said to insure its re-usability.

The anti-vibration product is a synthetic material composed of two layers of tough vinyl chloride elastomeric resin, bonded to both sides of a strong reinforcing core of monofilament Fiberglas. These components are fused under heat and high pressure to form a unit of three layers of three different natural frequencies. For further information write the editors.

Custom automatic bagged pigment press built for Du Pont by James Hunter.

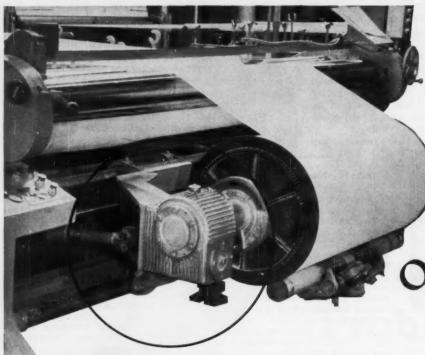
Ceiling Cleaners

New oscillating ceiling cleaners for the textile industry have been developed by the American Mono-Rail Co. They automatically clean ceilings preventing lint accumulation. A high velocity column of air is hurled overhead as the units travel up to 100 feet per minute around loops of monorail track. The fan can be easily adjusted for horizontal or vertical angles in order to change the air stream and remove lint from the lights, pipes, ducts, walls and overhead equip-ment. For further information further information write the editors.

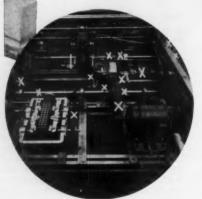
Hunter's Beaty Press

James Hunter, Inc., has made delivery of the first Beaty hydraulic press manufactured by the company since its recent acquisition of the J. T. Beaty Machine Co., Charlotte, N. C. This southern subsidiary of the James Hunter Machine Co. also produces a line of textile fiber feeding and blending ma-chines, flex spools, expanders and cloth handling equipment. The subsidiary manufactures hydraulic baling presses for a broad range of uses by the textile and other in-dustries in a new plant recently constructed at Mauldin, S. C. For further information write the editors





Don't Be Chained to Outmoded Drives



X These parts are eliminated

In this slasher drive a few simple and rugged parts replace the complicated maze of belts, chains, sprockets, etc. presently used in other slasher head drives. It has no sliding sprockets or gears. This eliminates the constant adjustments and the replacement of expensive parts which were formerly accepted as necessary. The result is long, trouble-free, and extremely quiet operation with greatly reduced downtime and consequent higher production.

The telescoping feature of this Torque Tube Drive permits
the running of greatly varying width beams without
projecting spindles. In addition, only Cocker's new HD Cylinder
Section construction permits removal of bottom
cylinders without removing top cylinder.

The Cocker Torque Tube Drive is standard equipment on all Cocker Slashers, whose other features remain as before — rugged construction, complete and accurate push button controls, full instrumentation, new fast and simple beam doffing, and Cocker's patented Type B Beam Drive which provides constant adjustable tension regardless of speed or load. Speeds up to 184 ypm and 20% to 25% more yarn per loom beam with production rates of over 1,650 lbs. per hour.

Write for full information today.

Visit Cocker's display, Booths 836 and 837, Southern Textile Exposition

*Pat. Applied For

COCKER MACHINE & FOUNDRY COMPANY

IN CANADA: Contact W. S. Clark Montreal, Canada Oxford 7-2242 IN MEXICO: Ing. J. Via, Jr. I. La Catolica 45-911 Mexico, D. F. PLANT & OFFICES at Ranlo, N. C. MAILING ADDRESS: Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

Abe Gottlieb

(Continued from Page 21)

are not few: to begin with, the preparatory work is slow and laborious. Loading yarn into the small brass disk-like bobbins is a time-consuming hand operation, requiring the services of a highly skilled worker. Similarly time-consuming is the winding of the numerous yarn beams that go on the machine. To draw in a machine that has been completely stripped of yarn is a task of several weeks for a skilled crew of four or five (or even more) well-paid, tightly unionized workers.

Equally time-consuming and complicated is the preparation of the Jacquard cards. To make matters more difficult, the number of men who can punch out the cards is dwindling fast. In American lace circles, some say that the remaining workers with well-developed skills in this line can be counted on the fingers of both hands. They are largely of European birth, many of them French; and as they grow older, retire and die, there are no replacements in sight.

Getting off the Hook

All these elements go to make Leavers lace expensive and its future shadowed. And they have for a number of years now presented lace manufacturers with a dilemma. On the credit side of the matter, lace makers are elated over the growth possibilities in their industry in modern America where more and more women are eager and economically able to buy more and more luxurious and attractively frilly garments. And then there is the booming birth rate, bringing more and more girls into the world deeply interested in making themselves irresistible to the equally increasing number of boys. This delicious state of affairs presents ambitious producers of lace for frills and furbelows on feminine outer and especially undergarments with a tremendous sales opportunity. On the debit side, they were handicapped with the high costs and slow rate of productivity of Leavers machines

Sudden and substantial improvements in the ability of Raschel machines to turn out lace, brought about partly by the makers of these machines and partly by the efforts of technicians in the machine shops of lace producers offered a hopeful solution. For these reasons the lace industry has turned with joy to the broad prospects opened before it by the use of Raschel-manufactured laces.

Liberty in the Lead

Among the first to grasp with both hands the opportunities offered by Raschel laces has been Abe Gottlieb, the head man of Liberty Fabrics of New York, a lace-making firm that this year marks its 50th year in business. Under his leadership, Liberty has moved forward to become one of the acknowledged leaders in Raschel lace, while maintaining its strongly established position as a maker of Leavers lace and high-style rubber fabrics such as bobbinet and elastic lace. With his company dividing its sales (annual volume in 1959 was \$6.8 million), between these three types, Gottlieb sums up the Raschel-Leavers division in lace technology by saying "Raschel for the masses, Leavers for the classes".

Although he expects Liberty to remain strongly in Leavers laces, Gottlieb sees the big growth po-

tential for his company in expansion and improvement of its Raschel lace output. Raschel machines, Gottlieb points out, run at substantially higher rates of speed than Leavers machines, and are thus far more productive. And compared with the Leavers machine, the Raschel unit requires far less preparation for the yarns, and less expensive finishing procedures for the lace after it come off the machine.

What has brought about the Raschel revolution in lace making? According to Abe Gottlieb, the basic reason has been Liberty's pioneering work in developing new designs that utilize the inherent capacity of the Raschel warp knitting machine. The development of new designs by Liberty's technicians, he says, encouraged the improvement of Raschel machines for lace making by such machine builders as Kidde and Mayer. By and large, these improvements lay in the addition of more bars to provide the mechanical means of knitting more intricate and delicate laces.

Liberty takes an understandable pride in the work of its technicians in the development of lace designs that in turn led to the improvement of the Raschel machine. So strongly does Liberty believe in the integrity of its designs that in 1957 the company broke new ground in the Raschel lace field by copyrighting them. This innovation so impressed the industry that by now virtually all Raschel lace makers follow the practice. In addition to copyrighting its designs, Liberty has been courageous enough to pursue with vigor a number of lawsuits against firms which, it asserts, have infringed its copyrights.

More to Come

In the future, Gottlieb expects that still further improvements in the machines, particularly in the chains that control the patterns they knit into lace, will narrow the still broad quality gap between Raschel and Leavers lace. In fact, Liberty now has in the advanced development stage a number of extremely hush-hush Raschel improvements which its management people believe represent a new breakthrough in lace technology more sensational than any that has occurred in the past five years.

More varied and delicate patterns, speedier output and consequently lower costs, Gottlieb ardently believes, will open new markets for lace. Currently, the bulk of lace production goes into women's lingerie, brassieres, corsets and sleepwear. With lace produced in a wider variety of patterns and at relatively low cost, Gottlieb sees expanding use in dresses, blouses, sportswear, and even on beach robes and bathing suits. One of the new kinds of apparel lace, an augury of more to come in the future, that Liberty has developed under Gottlieb's energetic prodding, is a wash-and-wear lace of nylon and Arnel triacetate yarn combined. Another new fabric which Liberty has great hopes for is a patented stretch lace, Raschel-produced from Helanca nylon. Gottlieb expects this cloth to go over big in women's briefs. Sharing his enthusiasm, the Chemstrand Corp. recently started an advertising campaign pushing this new fabric in this end use.

Abe Gottlieb, whose achievements make him a leader in the lace industry, was born in New York City and educated in its public schools. At the age of 17, freshly graduated from Commerce High School and looking for a gainful livelihood, he dropped in to see a cousin who was in the lingerie business. As luck would have it, his cousin had in his office at that moment one of his lace suppliers. Louis Nimkoff.

Impressed by Gottlieb's obvious bouncy energy and desire to go out and lick the world, Nimkoff, needing a low-priced salesman, offered the young fellow a job.

The very next day, Gottlieb, carrying a sample case full of Nimkoff's laces, set out to sell. His new boss had agreed to give him a three percent commission and a drawing account of \$15 a week to cover, as Gottlieb says today, "lunches and carfare."

Within three months, Nimkoff's new salesman was earning \$100 a week in commissions, which was not bad for a 17 year old boy in the year 1925. At once overjoyed and alarmed at the success of his boy salesman in selling laces, Nimkoff proposed that he take a salary of \$50 a week, and allow the excess of his commissions to accumulate to be paid as a bonus at the end of the year. This offer Gottlieb firmly declined; he was determined to stick to his straight three percent commission. This arrangement remained in effect for years and years as Gottlieb became more and more important in the operation of the firm. Before many years had passed he extended his work and responsibilities backward from selling through production and styling. He made regular trips to plants Nimkoff acquired in the lace making towns in Rhode Island, learning by constant observation how Leavers laces were made. He made frequent visits abroad to buy laces and lace designs. His wonderful affinity for lace, and his unerring ability to select fresh and attractive designs were important elements in the growth of Nimkoff's business.

On His Own

In 1944, after two decades of association with Nimkoff's firm, Abe Gottlieb made the big, the inevitable decision: to strike out for himself. By 1947, Abe Gottlieb, Inc., was doing close to \$2 million in sales, and had set up its own lace manufacturing plants in Philadelphia and the Bronx. In 1955, Gottlieb capped his fast-moving, tremendously successful career in the lace industry by acquiring control of Liberty Fabrics, a publicly held corporation with its stock listed on the American Stock Exchange. Liberty had a mill and dyehouse in the Bronx for making Leavers lace. Since Gottlieb acquired the company, it has

built a brand new plant in Englewood, New Jersey, and has set up a plant at Hato Rey, Puerto Rico, which is currently being expanded. The Englewood plant is devoted exclusively to Raschel laces, while the Puerto Rican set-up has both Raschel and Leavers machines. It is interesting to note that the Leavers machines in Liberty's Puerto Rican plant are the only modern machines of this kind that have been installed in the United States in decades—a persuasive indication of Gottlieb's faith in the future of Leavers lace.

Future Unlimited

Liberty's present strong position in the lace industry is regarded by ambitious Abe Gottlieb as a good base for a big leap forward. He sees the lacemaking field as one offering the broadest horizons of growth. In a word, it is his optimistic conviction that so far the surface has only been scratched. Liberty, as one of the larger producers of lace fabrics, equipped with modern plants and a staff of eager young men, is ready, Gottlieb says, to capture for itself a broad area of the future expanded market for laces.

Gottlieb's enthusiasm for the big opportunity ahead is shared by his associates in management: softspoken, able Norman Alexander, 33, vice president, and assistant to president Gottlieb; Herman Novik, 43, vice president for sales, a man of seasoned experience in the lace trade; Roland DuCoffe, 46, treasurer, a veteran of years of accounting and managerial work in the tough field of chain store retailing. On the production side there is Herb Klug, 47, vice president and manager of the key Englewood Raschel plant, a man with a rare bundle of skills and years of experience in warp knitting; Sal Cesta, 41, also a vice president, manager of the Bronx Leavers plant, a Leavers lace technician whose father was a Leavers weaver, and who knows this art thoroughly from long years of learning by doing.

With this set-up and this staff, Gottlieb feels that Liberty is poised for a leap into a prosperous and expanding future. And he is convinced that it will be a future where more lace will be used in womenswear—and, who knows, maybe in menswear, too.

New Leesona Plant

Leesona Corp. held ground-breaking ceremonies on August 11 for its new \$3,500,000 plant at Warwick, R. I., as part of its program to modernize its textile and coil winding machinery operations. The onestory, 450,000-square foot plant will replace the firm's present facilities in Cranston, R. I. The plant is scheduled for completion in November, 1961, with transfer of all operations from Cranston to Warwick expected to be finished by December, 1961. Robert Leeson, Leesona president, said the Warwick plant will result in greater operating efficiencies and a substantial reduction in repair and maintenance costs.

Financing for the building program was arranged through the Rhode Island Industrial Building Authority, which as a result of a recent referendum, now guarantees industrial mortgages in the state up to \$5.000.000.

Leeson said the firm's consolidated net sales in the 1960 first half were the highest for any 6-month period while net profits set a new first-half record. For the six months ending June 30, 1960, sales totaled \$15,911,034 against \$11,235,270 in the like 1959 period. Net income was \$1,362,763, equal to \$1.66 a share, compared with \$913,680 or \$1.18 a share in the 1959 first half.

The sharp sales rise reflected the inclusion in the 1960 results of operations of Leesona-Holt, Ltd., a British subsidiary, and a continued high demand for the Unifil loom winder and other Leesona products. Leeson said that results from the stepped-up research and development activities are already being realized. The current order backlog for all Leesona products, he said, assures that the present production rate will continue throughout the remainder of this year.

Industrial Promotes Brownley

The election of John W. Brownley to the position of vice president, manufacturing, Industrial Rayon Corp., was announced last month by Frederick L. Bissinger, president. Brownley previously was production manager. Before joining Industrial Rayon in 1959, Brownley was executive vice president of Industrias Consolidadas de Matanzas, rayon producer in Cuba.



I W BROWNIE

Indoor Weather Control

Air-Perme-Ator Mfg. Co. has developed an indoor weather control system, in packaged units, designed to meet all requirements of the textile industry. The system provides for progressive conditioning. An initial installation can be made for humidification only; later on, heating or heating plus cooling may be added to the same unit to provide complete air conditioning.

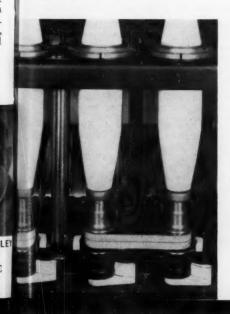
The company reports that uniform indoor weather will prevent ends down and speed up throwing and winding operations. In the warping room, proper moisture content of yarn can be maintained on creels and beams, while static, valleys and ridges are eliminated.

Air-Perme-Ator says that use of a unit, such as its Therm-Evac, will quickly pay for itself. The Therm-Evac is a self-contained unit that automatically controls humidity and temperature all year 'round. For further information write the editors.

Improved Spindle Handbrake

Whitin Machine Works has developed a simple, durable and easily operated spindle handbrake for the Centerbase No. 880 spindle. It is especially designed to simplify the piecing up operation. The new clamp-on handbrake is said to reduce the hazard of bobbin burn and jammed tubes. It applies pressure evenly on both sides of the whorl without vibration, not only against one side of the spindle like a knee brake. New brake pads can be easily replaced at the mill without gluing or riveting.

The new clamp-on handbrake can be applied to Centerbase No. 880 spindles already in the field, having standard thin edge whorl flanges as well as Whitin's newest spindles with skirt-type lower flanges, which provide a larger braking surface. For further information write the editors.



Automatic Doffing Machine

Willcox & Gibbs is currently demonstrating in the U.S. the Treufus automatic doffing machine adapted for American spinning equipment. The original prototype was first shown in this country at Trion, Ga., last summer. The Treufus machine automatically doffs full bobbins and simultaneously replaces empty bobbins. It can be used without modification on spinning frames of all gauges.

While the top efficiency of the Treufus is yet to be determined, the effective doffing and replacement rate is estimated at 6,000 to 8,000 per hour. The Willcox & Gibbs Sewing Machine Co. and its subsidiaries are exclusive licensees in this country and in Canada, Mexico, England, the European Common Market, Latin America and other countries. The machine is fully patented in the U.S. and other principal countries.

The manually-operated machine is mobile and easily moved from one side of the spinning frame to the other. Hydraulic equipment permits it to be readily lowered and raised. For further information write the editors.

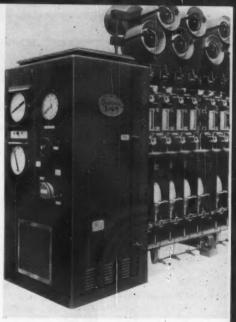
Improved Cots, Aprons

A new line of top roll cots and aprons for spinning and roving frames was introduced by Dixon Corp. at the recent Atlantic City Textile Show, under the trade name "Draftex." The Draftex covering materials are manufactured for all kinds of top rolls and every make of drafting system. Cots are made from Buna N synthetic material in sizes up to 2¾-inch O.D. and for any length of working face. The back roll cots have a filler additive to increase drive. All Draftex cots are antistatic. For further information write the editors.

Filling Holder, Cutter

H. F. Livermore Corp. is offering its new mill-tested filling holder and cutter, Series 8300, as a solution to the problem of seconds resulting from drag-ins and sidelines caused by wear or lag of fiber holding blades. The new part can accommodate, without any adjustment, all types and sizes of filling (cotton, rayon, wool, fiberglas). A hardened steel gripper holds the filling firmly and in a straight line, before and during the cut. There are no fiber holding blades to wear. and no bending of the filling, as with holding blades of conventional cutters. Only one factory-adjusted setting is necessary for the lifetime of the device, according to the manufacturer. For further information write the editors.

Whitin's new clamp-on handbrake installed on their Centerbase No. 880 spindles.



Dobson & Barlow's HDT.1 heavy denier draw-

Heavy Denier Drawtwister

The new HDT.1 heavy denier drawtwister, manufactured by Dobson & Barlow, Ltd., England, is now in service in several countries. The machine, developed especially for the heavier synthetic yarns, incorporates a number of useful features. Primarily, it is designed for hot stretching high tenacity yarns and is mechanically capable of producing drawn yarns of up to 2,000 denier. Delivery speeds of 1,250 feet per minute may be achieved, the manufacturer reports, in the lower denier range. Packages holding up to 9 pounds net weight of yarn can be built with a lift of 14 inches, thus taking the fullest advantage of the wide denier range and high delivery speed.

The drawtwister is supplied complete in all respects, with electrically-heated and thermostatically-controlled heater plates, step-down transformer for the heater supply and automatic hot plate temperature scanning equipment to ensure that the temperature of each hot plate is checked every five minutes. Structurally and in layout, the machine is designed to withstand the heavy operational duty it is required to perform.

Its overall width is 3 feet 5½ inches and the overall length, including all electrical equipment, is 41 feet for a standard 9-inch gauge, 80-spindle machine. Pneumatic extraction tubes are positioned below the hot plates and immediately behind the threads so that the fumes produced by the evaporation of the "spin finish" are exhausted for disposal elsewhere. For further information write the editors.



ARNEL® PROSPECTOR®



Look for these two famous seals on your goods . . . assurance of quality control to the strictest standards in the Industry.

Whitest Whites Perfect Pleating Brilliant Colors



NEW FABRICS

NEW YARNS

Stretch Fleece Bunting

Muriel Henry has designed for Kapart Creations a stretch fleece now being introduced in an infant's bunting. Made of Creslan acrylic fiber and nylon, the one-size bunting expands with the baby without restriction, fitting the infant snugly from birth until it weighs about 20 pounds. For further information write the editors.

Tweed Upholstery Fabric

Tweed upholstery fabric from S. M. Hexter is said to owe its unusual surface interest to its use of Taslan textured nylon. The textured nylon is used in combination with cotton, Du Pont's regular nylon, rayon, and jute, for a different look and hand. For further information write the editors.

New Knitwear Fabrics

New knitwear fabrics for fall-winter delivery have been introduced by M. Lowenstein & Sons. Heading the new line are "Persian Crystal" cotton knits, designed to resemble the curly look of Persian lamb. This fabric is available in a wide variety of fashion colors in both solids and two-color combinations. The knitwear line, in its third year as a Lowenstein venture, also includes laminated foam-backed cottons in cable stitching and basket weave designs.

Orlon and wool jerseys in 80-20 blends have been introduced in four-pattern, four-color combination 7-ounce better dress goods, with or without brushed finish. Brushed solids in Orlon and wool interlocks, in 10-ounce coatings and suiting weights, have a low nap finish. For further information write the editors.

Vinyl-Coated Nylon

Reeves Brothers is marketing a new line of vinyl-coated nylon material, "Coverlight-V." Added to the existing Coverlight-N (neoprene-coated nylon) and Coverlight-H (Hypalon-coated nylon), the new vinyl material now makes it possible for Reeves to offer a broad line of synthetic coated covering materials, ranging from light duty weights to extra heavy material. The vinyl-coated Coverlight is made in 6, 10½ and 12 ounce weights. Standard width of the material is 56 inches. Coverlight-V is expected to find wide application in the fabrication of light duty industrial covers, such as for boats, fumigation projects, airplane parts, machinery and instruments. For further information write the editors.

Polishing Cloths

A new line of seven household cleaning and polishing cloths has been introduced by Speedry Chemical Products. The new cloths are permanently treated with special formula silicones, detergents, waxes and other chemically-activated ingredients for cleaning and polishing uses. For further information write the editors.

Fluorescent Vinyl Fabric

Aldan Plastics Co. has introduced a fluorescent vinyl-coated fabric designed for high visibility applications. Developed for the safety clothing field, the vinyl coating can be applied in various colors to one or both sides of cotton or nylon in a variety of weights. It is available in either a smooth or grained finish, is waterproof and has good abrasion resistance. Immediate application has been in hunting clothing (caps and jackets), for highway and construction personnel (danger flags and chest shields), and in related items where visibility at great distances is desired. For further information write the editors.

THE TEXTILE



DISTRIBUTORS INSTITUTE, INC.

NEWS AND COMMENT

Annual Meeting at Astor, Oct. 13

The Astor Hotel, New York City will be the place of the annual meeting of the Textile Distributors Institute on Oct. 13, according to an announcement by Nat Leavy, Goldstein & Leavy, Inc., president of the Institute. The meeting will open with a social period beginning at 12 noon followed by a luncheon at 12:30 P.M. On the agenda of the meeting is the election of new members of the Board of Directors to be followed by the election of officers for the coming year. The principal talk of the meeting will be delivered by Jackson E. Spears, vice president, Burlington Industries, Inc.

Last month President Leavy appointed a nominating committee to nominate candidates for election to the board of directors at the annual meeting. Chairman of the committee is Louis J. Brenner, Shirley Fabrics Corp. Other members are Louis E. Kates, French Fabrics, Inc., and James P. Marion, Bloomsburg Mills, Inc.

TDI Dinner-Dance Nov. 10

The annual formal Dinner-Dance of the Textile Distributors Institute will be held Thursday, Nov. 10 in the Grand Ballroom of the Plaza Hotel, New York City. The Tiffany invitation in ecru, embossing in brown with the TDI emblem carried out in red gold, has been mailed to the membership of the Institute as well as mill and yarn interests, factors, bankers, brokers, dyers and printers. The affair will begin with a cocktail party at 7 P.M., followed by dinner at 8 o'clock with dancing to music of Mark Towers Orchestra.

Members Get L22 Copies

The Textile Distributors Institute, as a service to its members, recently mailed to each member complimentary copies of the New L22 American Standard Performance Requirements for Textile Fabrics. The Standard received by TDI members consisted of Volume I: American Standard Performance Require-

ments for Textile Fabrics; and Volume II: Test Methods to be Used with L22 Standards.

Last May the Institute's board of directors passed a resolution declaring that the Institute believed that the best interests of the textile industry will be advanced by the implementation of the Standard by all segments of the industry. The resolution recommended that the Institute's members and all others affected adopt and apply the Standard to their products wherever practicable or desirable.

In a bulletin mailed to members and others in the trade when the copies of the Standard were distributed last month to TDI members, President Nat Leavy said: "While, of course, you know that the use of an American Standard is purely voluntary, it will become truly effective only when it has been widely adopted by the interests concerned."

Kenyon Joins TDI

Kenyon Piece Dyeworks, Inc., Kenyon, Rhode Island has been admitted to associated membership in the Textile Distributors Institute, according to a recent announcement by Miss Hilda A. Wiedenfeld, executive director.

Awards to TDI Members

Two members of the Textile Distributors Institute, Dan Fuller and A. E. Wullschleger, will be recipients of Achievement Awards given each year by the Textile Veterans Association. They will receive the awards at the Association's annual dinner, Oct. 7 at the Biltmore Hotel, New York City.

Lowenstein to Be Honored

Leon Lowenstein, chairman of M. Lowenstein & Sons, Inc., will receive the annual award of the Textile Section of the New York Board of Trade at a luncheon Nov. 10 at the Hotel Pierre in New York City. The award is given for "outstanding service to the textile industry", according to G. J. Garretson, Turner, Halsey Co., chairman of the Textile Section.

New Dyeing Assistant

Brighter, heavier shades in a wider range of useful colors can be expected for polyester, triacetate and acetate fibers when a new dyeing assistant developed by American Cyanamid Co. is included in the dye bath. The new carrier, Cyanatex Dyeing Assistant EM, is supplied as a readily dilutable emulsion which accelerates the penetration of the dye into the fiber at below-the-boil temperatures. Shorter dyeing cycles, lower dyeing temperatures and better color values can be achieved. Cyanamid states there is no need for a strong, alkaline after scour to remove the carrier. Wet fastness and fastness to wet and dry pressing of dyeings are also reported to be good. For further information write the editors.



Photo showing precipitate build-up around polyester fiber with ordinary dye-precipitant carrier, when used with disperse dyes (left), while a dye-solvent carrier, such as Cyanatex, forms colored globules with the dye, which attach themselves to the fiber, as shown on the right.

Use these convenient reference tables for

OPTIMUM QUALITY CONTROL TESTING

By Norbert Lloyd Enrick*

INSTITUTE OF TEXTILE TECHNOLOGY

In CONTROLLING such quality items as count, evenness, ends-down, loom stops and other items, the question often asked is: "What is the right amount of testing that a mill should do?" Naturally, this question depends primarily upon the amount of money that can be spent for quality control testing. In making the proper judgment, an evaluation must be made on how good a control job needs to be done for the end uses of the product.

Basically, the question of the proper amount of testing can be answered by use of a simple formula, which depends upon three recognized factors:

- The amount of variations present, resulting from processing, must be known. We designate these as processing variations.
- 2. Since the mill cannot afford to test 100 per cent of all the items it produces, it must accept a sampling error or tolerance, which establishes an allowable range around the true process average, within which the sample average would fall.
- The mill must accept a predetermined sampling risk that the sample average may, by chance, give an erroneous picture of the production lot or process as a whole.

These three factors, involving the processing variations present, the allowable sampling error or tolerance, and the sampling risk, can be expressed in quantitative terms, as will be shown next. The terms can then be put into a simple formula, from which the proper amount of sampling and testing is determined. Moreover, ready-made tables are furnished in this paper, from which the answer can be read without need to perform any calculations.

Processing Variations

The amount of variation in a mill product, resulting from processing, is best measured in terms of the Coefficient of Variation, Percent, denoted by the symbol %V. This is a statistically computed value, which denotes in a single figure the variability of a process or the variability in a production lot.

As an illustration, there are presented in Figure 1 two sets of yarn bobbins, representing "Lot A" and "Lot B" respectively. It is seen at a glance that Lot A is the less variable and therefore a better lot. In particular, more bobbins fall toward the center and fewer toward the extremes than in Lot B. The Coefficient of Variation expresses this lower variability

Part one of a three-part series

SIZE	NUMBER OF BOBBINS H	AVING EACH SIZE
SIZE	LOT A	LOT B
62		
63		000
64		
65		00000
66		
67	De la companya de la	
68		

Figure 1—Comparison of Two Lots of Yarn Bobbins

in numerical terms, as shown by the actual computations in Table I. From this it is seen that Lot A, with a Coefficient of 1.5 per cent is exhibiting lower variability than Lot B with a Coefficient of 1.9 per cent. Thus, the lower the Coefficient, the less is the variaability.

It will have been noted that both lots have been artificially adapted, for purpose of illustration, to be symmetrical and to have the same average yarn number of 65. In actual practice, lots will be only approximately symmetrical and will also be much larger, but the principle shown here will still hold.

Sampling Error or Tolerance

In actual practice, the production of a mill is exceedingly large. For example, the daily output of the spinning room of an average mill runs into several thousands of bobbins with a total yardage of several millions. If all of this production were tested for yarn count only, it would be necessary to engage dozens of people for months. By the time such an undertaking would be completed and the absolute true average count of that day's production known, the value would be out of date, and all the yarn destroyed.

^{*} Since writing this article, Professor Enrick has joined the teaching staff of the Graduate School of Business Administration, University of Virginia.

For this reason, relatively small random samples of only a few bobbins at a time are used for testing. From the test results, the average of these bobbins is determined, which is an estimate of the "true" average that might have been obtained by testing all the bobbins produced. However, in turn for the advantage of testing only a small sample, an allowance for sampling error must be taken into consideration.

a manufacturing precision of one tooth per 33, or three per cent. This permits adjustments of \pm 1.5%, and there would consequently be no need to choose an Allowable Sampling Error or less than this \pm 1.5 per cent.

As a further example, assume that the same mill had been in possession of crown gears permitting frame adjustments to within \pm 0.5%; then it should

TABLE I. COMPUTATION OF COEFFICIENT OF VARIATION Illustrated on Lots A and B from Figure 1

	Lot A			Lot B	
Yarn Count	Deviation from Average, 65	Deviation Squared	Yarn Count	Deviation from Average, 65	Deviation Squared
63	-2	4	63	-2	4
64	-1	1	63	-2	4
64	-1	1	63	-2	4
64	-1	1	64	-1	1
64	-1	1	64	-1	1
65	0	0	64	-1	1
65	0	0	64	-1	1
65	0	0	65	0	0
65	0	0	65	0	0
65	0	0	65	0	0
65	0	0	65	0	0
65	0	0	65	0	0
65	0	0	65	0	0
65	0	0	66	+1	1
65	0	0	66	+1	1
66	+1	1	66	+1	1
66	+1	1	66	+1	1
66	+1	1	61	+2	4
66	+1	1	67	+2	4
67	+2	4	67	+2	4
Total	s	16			. 32
Total	s divided by 20*.	0.8			. 1.6
	B		= $\sqrt{1}$.	.6	. 1.26
Coeff	icient of Variati 89 x 100 65**	on,V 1.4%	= 1.	. 26 x 100 65	. 1.9%

This is the Allowable Sampling Error or Tolerance. It recognizes the fact that in small samples there are fluctuations or "errors" as against the true lot average.

How is the proper Allowable Sampling Error established? This involves both technical and economic considerations. For example, if to control weights on a given process the change gears available average 33 teeth, then it is obvious that the mill is limited to

be possible to adopt an Allowable Sampling Error of + 0.5%

The examples above show how technical factors set a limit as to how low or close to set the Allowable Sampling Error; viz., \pm 1.5% and \pm 0.5% for the illustrations furnished. However, it is frequently decided that a particular type of style does not require the degree of precision of control technically attain-

TABLE II. NUMBER OF TESTS REQUIRED FOR AN C. 3% SAMPLING RISK

COEFFICIENT						שורכ	THE PERSON	ALLOW ABLE SAMPLING ERROR,	DATE	-	1											
VARIATION	0.5	8 .0	1.0	1.2	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0 5	. 5 6.	0 7.0	0.8	10.	0 12.0	15.0	18.0	20.0	25.0	30.0
%v							Number	Jo	Tests Red	Required	75											
0.5	6	4	2	2	-	-		-	3	-	-	1	-	-	1		-	-	-	-	-	-
9.0	13	5	6	2	2	1	and	7	1	-	7	1	-	-	-	-	-	-	-		-	-
0.7	18	7	4	3	2	1	1	1	-	-	-	1	-	-	1	7	1		-	7	-	-
0.8	23	6	9	*	2	-	-		-	-	-	1	1	1	1	-	1	-	1	-	-	-
1.0	36	14	0	9	4	2	1	1	1	-	1	1	-	1	1	-	1	-	-	1	-	-
1.2	75	07	13	6	9	3	2	1	1	1	1	1	1	1	1	-	1	-	-	-	-	-
1.4	7.1	28	18	12	00	Ap.	•	2	1	1	-	1	-	1	1	1	1	1	7	-	-	7
1.6	92	36	23	16	10	9	*	3	2	-	1	1	1	1	-	1	1	1	1	1	-	-
1.8	117	46	62	20	13	7	N)	3	2	2	1	1	-	-	1	1	1	1	-	1	-	-
2.0	144	99	36	25	16	6	9	4	3	2	2	1	1	1	1 1	1	1	1	-	1	1	-
2.2	174	89	44	30	19	11	7	30	4	3	2	2	1	1	1	1	1		-	-		-
2. 4	207	893	52	36	23	13	00	9	4	m	3	2	2	1	1	-	1	7	1	-	-	-
2.6	243	95	61	45	27	15	10	00	III)	4	2	2	2	2	1	-		1	1	-	-	-
2.8	282	110	71	49	31	18	11	90	9	4	2	3	2	2	-	1	-	-	-	-	-	-
3.0	324	127	81	99	36	20	13	6	7	20	4	3	3	2	-	1	1	1	1	-	-	
3.2	369	144	92	64	41	23	15	10	80	9	5	4	3	3	-	1	1	-	-	-		1
3.4	416	163	104	72	46	26	17	12	00	7	r.	4	m	3	2	-	1	1	-	1	-	-
	467	182	117	8.1	52	59	19	13	10	7	9	ın	4	3	2	-	-	-	-	-	-	-
	520	203	130	06	58	32	21	14	11	00	9	M	4	4	3	-	-	-	-	-	-	-
	576	225	144	100	64	36	23	16	12	6	7	9	2	4	3 2	1	1	-	-	1	-	-
4.2	635	248	159	110	7.1	40	25	18	13	10	00	9	5	4	3 2	2	1	-	1	1	-	1
4.4	169	272	174	121	11	44	28	19	14	11	6	7	9	ın	3	2	-	1	1	7	-	7
4.6	762	298	190	132	85	48	30	21	16	12	6	00	9	ın	3	2	-	1	1	-	-	-
4.8	829	324	207	144	95	52	33	23	17	13	10	00	7	9	3	2	-	1	-	1	7	-
5.0	006	352	225	156	100	99	36	25	18	14	11	6	7	9	5 4	2	2	1	1	1	1	1
5.2	973	380	243	169	108	19	39	27	20	15	12	10	80	7	5 4	2	2	1	1	1	1	1
5.4	1,050	410	292	182	117	99	45	29	21	16	13	10	6	7	5	m	2	1	1	1	-	1
5.6	1, 129	441	282	196	125	71	45	31	23	18	14		6	00	5	m	2	-	1	-	-	1
5, 8	1,211	473	303	210	135	92	48	34	25		15	12	10	00	5	3	2	1	1	1	-4	
0.9	1,296	909	324	225	144	81	52	36	26		16	13	11	6	7 5	3	2	1	1	1	1	1
7.0	1,764	689	441	306	196	110	71	49	36		22					4	7	2	1	1	1	1
8.0	2,304	006	929	400	256	144	92	64	47		28		19 1		6 2	9	4	3	2	1	-	-
10.0	3,600	1,406	006	625	400	225	144	100	73		44	36	30			_	9	4	6	2	1	1
12.0	5, 184	2,025	1,296	006	576	324	207	144	106		64			36 26			6	9	4	3	2	1
15.0	8, 100	3, 164	2,025	1,406	006	206	324	225	165	127	-	_	-	56 4	1 32	-	14	0	9	10	3	2
20.0	14,400	5,625	3,600	2,500	1,600	006	576	400	294	225	_	-	-	_	3 56	36	_	91	11	6	9	4
25.0	22, 500	8, 789	5,625	3,906	2,500	1,406		625	459	_	_							25	17	14	6	9
30.0	32,400	12,656	_	5,625	3,600	2,025	7	006	661				_	_		_	99	36	25	20	13	6
35.0	44, 100	17,227		7,656	4,900	2,756	1,764	1,225	006	689	544	_	364 30	_	5 172		77	46	34	28	18	12
400	27 600	22 500	24 400	1000	400								•		•							

Example: Given a %V of 3 and a %E of 4. To find Number of Tests required, enter Table at 3% level. Proceed horizontally until column for %E of 4 is reached. This yields 5 as the Number of Tests required.

able. Mill personnel will then choose a higher or, in other words, wider Allowable Sampling Error. This has cost saving advantages, in that it involves less gear changes in actual production and also requires less testing. But this cost saving is attained at a sacrifice in precision of control.

Frequent practice in many mills is to establish the actual Allowable Sampling Error at twice the value technically attainable. This would mean Allowable Sampling Errors of \pm 3.0% and \pm 1.0% for the illustrations above. In mills supplying knitting yarns, the Allowable Sampling Error is usually only about thirty percent above the value technically attainable. This would mean Allowable Sampling Errors of \pm 2% and \pm 0.7% for the aforementioned examples, respectively.

Thus, technical, cost and sales considerations go into the establishment of the most suitable Allowable Sampling Error. The short-cut symbol for Allowable Sampling Error in Percent is "% E."

Sampling Risk

In addition to the Allowable Sampling Error, it also is necessary to choose an acceptable Sampling Risk. Sampling Risk refers to the chance that a sample average may occasionally give an erroneous indication of lot quality.

The Sampling Risk may be expressed in terms of "chances" of error or percent risk due to sampling fluctuations. Typical values used are:

- Three "chances" out of one thousand, or risk of 0.3 percent.
- One "chance" out of one hundred, or risk of 1 percent.
- 3. One "chance" out of twenty, or risk of 5 percent.

For ordinary control purposes in the textile industry a risk greater than 5% is usually undesirable, and in processes where more sensitive control is desired, a risk of only 0.3% is preferred. An example of a process where relatively sensitive control is desired is where primary gear changes are made to keep the stock weight or "count" in line, such as in drawing or roving. Usually this control will be further aided by use of control charts. The control limits on such charts are set to correspond to the distance from the desired average in accordance with the tolerance allowed by the value of % E.

A ready-made set of plans for the 0.3 per cent sampling risk is provided in Table II, for all situations that may be encountered in practice. The use of the table is illustrated by the example shown along its bottom lines, Additional tables will be presented in the next installment of this three-part article.

Experimental Spinning Machine

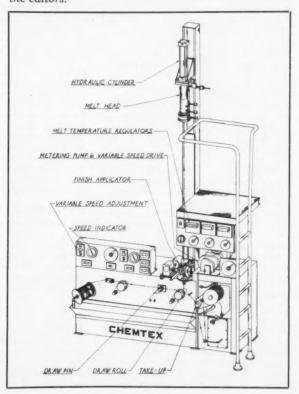
A new machine for experimental spinning of manmade fibers has been developed by Chemtex, Inc., designers of plants and machinery for manmade fibers and films. According to Dr. H. Peter von Bucher of Chemtex, the machine is intended for evaluating fiber forming characteristics of experimental polymers. It was developed, he said, to meet the demands of many companies engaged in fiber research for a versatile unit that can be used in investigations conducted in both melt or solvent spinning. The broad range of fibers that can be spun and drawn on the machine include olefins, polyesters, polyamides, acrylics and acetates.

A major advantage of the Chemtex machine, he pointed out, is the fact that it can be used for spinning small quantities of polymers weighing as little as 25 grams. The machine can also handle polymer quantities as high as 200 grams, he noted, and can be operated at spinning speeds up to 500 yards a minute for normal operation, or as high as 1,500 yards a minute for special applications.

Both the spinning head and the draw machine are designed to deliver mono or multi-filament yarns with the denier control and uniformity of commercial yarns. The spinning head, when used for polymer melting may be heated with automatic control in three separate sections as a means of maintaining polymer degradation at a low level while extruding at precisely adjusted temperature. The unit is provided with three standard spinnerette designs intended to fill requirements of a wide variety of investigations.

The draw machine is designed to operate at a maximum feed of 150 yards a minute with the spinning machine yarn take-up head also used as the drawn yarn take-up. Draw ratios may be adjusted to any desired value since the feed and draw rolls are independently controlled. A wide spacing is available between the draw rolls to allow placement of means for various drawing techniques such as hot

or cold pins, metal baths, heated chambers, etc. for experimental purposes. The draw machine is either provided in one unit with the spinning machine, as shown in the accompanying illustration, or as separate, portable unit. For further information write the editors.



High Temperature Launder-Ometer

Atlas Electric Devices Co. is marketing a new model which may be operated at temperatures up to 300°F. For high temperature dyeing as many as 20 new high pressure stainless steel containers, 3" by 6" high, may be used simultaneously. Fittings in the containers permit injection of additives during test and release of any built up pressure before opening.

A high boiling point fluid, such as ethylene glycol, is used in the bath. It can be rapidly brought up to 300 degrees F by electric immersion heaters and can be quickly cooled to handling temperature by a

water cooling coil.

The launder-ometer also can be operated with conventional specimen containers. All of the devices now in use may be equipped with the new quick release type jar holding fixture instead of the previously spring clamps and wing nuts. The new fixture holds from one to five specimen containers of the same type and is adjustable to accommodate the high pressure metal containers, one-pint metal containers, one-pint glass jars or the 3½" by 8" metal



specimen containers and adapters. For further information write the editors.

Improved Wash-Wear Resin

Good durability to laundering and drycleaning, inherent flexibility, and high film strength are listed as outstanding features of Rhoplex HA-12, a new acrylic resin dispersion produced by Rhom & Hass Co. The new resin is described as a self-crosslinking polymer, closely related in performance to the company's Rhoplex HA-8, a low-temperature-curing acrylic resin which has been in commercial use for several months. For further information write the editors.

Arnel-Cotton Dyeing

A method for application of dyestuffs to textiles which combine Arnel with cotton has been developed by Albert V. Morrell, superintendent of plant production for Hellwig Dyeing Corp., it was announced by Althouse Chemical Co. Morrell's problem was to dye the cotton without tinting or staining the Arnel. At the sugges-tion of Althouse, Morrell used that Company's Azoanthrene Black Wan, after the sizing was removed from the Arnel. Similarly, starch also must be completely removed from the cotton. Where the Althouse dye was applied, it was found there was no color change, even when resin finishes were applied to the fabric. For further information write the editors.

New Textile Softener

Atlas G-3573, a new cationic textile softener for natural and synthetic fibers, is being marketed by Atlas Powder Co. The company reports it softens and lubricates fabrics and thread; improves sewing and napping qualities, and gives finished goods a rich hand.

Atlas G-3573, which is 100% active, can readily be formulated by the compounder as a 25% active fluid dispersion. It can be applied by conventional methods to cotton, rayon, wool and synthetics. For further information write the editors.

New Putnam Products

Putnam Chemical Corp. is marketing two new products. The first, Uniperol AN, is an auxiliary product for dyeing polyacrylonitrile fibers with basic dyestuffs, as well as with special cationic types, such as the Basacryl range. It is not suitable for stripping purposes.

The second product, Persistol Extra, is a water-repellent agent for textiles. It contains paraffin wax emulsion containing zirconium, free from emulsifier. Persistol Extra's water repellent effects, the manufacturer reports, can usually be improved still further by combining the product with precondensates of resins, and thus carrying out a one-bath water-repellent and crease-resist finish. For further information write the editors.

New Softening Agent

Crest Chemical Corp. has developed Crestosoft AS Conc., a new nonionic softening agent reported to be pure white in color. The agent is used with acids or alkalies and is compatible to all types of finishes, resins, catalysts and fixatives. Used with urea-formaldehyde, it produces a soft hand with draping qualities. Used with resins, it minimizes tensile strength loss, adds to abrasion resistance, increases tear strength and improves sewability characteristics, according to its maker. For further information write the editors.

New Combination Finish

Bradford Dyeing Association has developed a durable stain and water repellent finish by combining Scotchgard, a fluorochemical stain repeller with Bradria, a durable water repeller. Scotchgard is made by Minnesota Mining and Manufacturing Co. and Bradria is a product of Bradford's laboratories. The combination is said to be an effective new process that provides an improved protective finish for rainwear, and other kinds of outerwear. It works particularly well, according to Bradford, with synthetic fibers combined with cottons. For further information write the editors.

Improved Barrier Resin

National Starch and Chemical Corp. now has available a watersystem, latex form of polyvinylidene chloride resin that is highly stable. When used as a coating material, National reports the resin imparts a combination of outstanding barrier and protective properties, Called Resyn 3600 until it is assigned a trade name, the new material can be applied to a variety of porous and non-porous substrates by standard coating equipment, thus eliminating the need for laminating or extrusion operations. Immediate application of Resyn 3600 will be in the paper, corrugating and packaging fields.

National is constructing a special facility at its Meredosia, Ill., plant which, when it goes into production sometime early this fall, will be able to supply some 14 million pounds of the new resin annually. For further information about this product write the

editors.

PTI Plastics Courses

The Philadelphia Textile Institute, Germantown, Pa., in cooperation with the Philadelphia Section of the Society of Plastic Engineers, is again co-sponsoring a series of special courses in plastics as part of the evening college program, beginning this fall. Courses have been planned in three 12-week periods, running from September 15, 1960, through June 7, 1961.

Fashions of the Future

A collection of fabrics and textures, containing Creslan acrylic fiber, recently was presented by the Fibers Division of American Cyanamid Co. The show, "Fashions of the Future," displayed men's and women's advanced styles to illustrate a "Many Faces of Creslan" theme. Fabrics used in the collection were both woven and knitted, in 100% Creslan acrylic fiber or in blends with wool, rayon, cotton and nylon.

The division has named Erwin G. Walker to the newly-created post of sales manager, south, with offices at Charlotte, N. C.

Textile Associates Club

Aaron Begum, Crompton & Knowles Corp., was elected presi-

dent of the Textile Associates Club at the July meeting in Wickford, R. I. Also elected to serve during the club's 61st year were: T. G. Orme, Baltic Mill, vice president; Fred A. Vogel, H. F. Livermore Co., secretary and treasurer; Kenneth R. Booth, Union Wadding Co., assistant secretary and treasurer, and William A. Savicki, J. W. Wood Elastic Web Co., auditor. The club's executive committee is planning a series of lectures on the textile and allied industries.

Zefran-Cotton Blends

A new type of Zefran acrylic staple for blending with cotton will be introduced by Dow Chemical Co. Designated as C-1, the new staple will be of uniform length and will be a blend of deniers, with an average size of 2 denier. Du Pont recently put on the market a new type of Orlon acrylic staple (Type 72) for cotton blends and which was priced at \$1.08.

New Schlegel Factory

The Schlegel Manufacturing Co. expects to open its new 55,000-square foot factory and distribution center in Chester, S. C., in October of this year. The plant will manufacture a complete line

of plastic webbings for lawn furniture and similar products. Schlegel, a specialist in narrow-loom industrial weaving, began a long-range expansion program four years ago with construction of a 230,000-square foot plant in Henrietta, N. Y. It also has complete manufacturing and distributing facilities in Oakville, Ont., Canada.

Roberts Sales Show Gain

Sales of Roberts Co., textile machinery manufacturer, in the 1960 first half hit a record \$3,860,380, with a net profit of \$160,430, compared with sales of \$1,997,592 and a net loss of \$149,125 in the corresponding 1959 period. Robert E. Pomeranz, president, said sales this year are running 50% above 1959. Total sales for 1960, he said, should run close to \$7,500,000 as compared with \$5,269,828 for fiscal 1959.

Utility Cloth Display

Pacific Mills' "Roll Kleen" utility cloth is being offered in free floor self-service shipping display units to retailers, jobbers and wholesalers. The absorbent woven cotton flannel utility cloth, 12 feet long and 9 inches wide, retails for 49 cents per roll.

AATT Nominating Committee

A committee to nominate a slate of candidates for election as national officers of the American Association for Textile Technology, Inc., was elected recently by a letter ballot of the membership. Members of the committee are: Carl I. Taber, the Du Pont Co., chairman; A. Frank Tesi, Celanese Corp. of America; and Roger J. Gentilhomme.

Order Your Reprints Now!

Would you like to order reprints of our Deskbook of Manmade Fiber Facts, and our specially enlarged pullout Tables of Denier Numbers and Filament Counts of U.S. Manmade Yarns and Fibers?

Many firms have already ordered such reprints in quantity for distribution to their employees and customers. If you would like to order a supply send your request to Modern Textiles Magazine, 303 Fifth Avenue, New York 16, N. Y. The reprints are 50 cents each with a discount of 20% for orders of 25 or more. Orders originating in New York City must add to the price the amount of the 3% city sales tax.



Creslan

content of 7% to 8% in the stock prior to the carding operation. For this purpose, a synthetic humectant such as Humisol MR1, in a 4% solution, may be applied as an overspray at the rate of 31/2 quarts per hundred pounds of fiber.

- 2. Alubraspin⁸—applied during blending operation by spray, preferably with the humectant as mentioned above.
- 3. Ahcovel R'-applied during the blending operation as an overspray 1% o.w.f.

Machinery Speeds and Settings

Apart from slight adjustments in the rate of feed

Picking (15 denier, 4-inch staple) Type of machine: Schofield Precarder

Size of cylinder	60" x 32½" dia.
Speed of cylinder	600 rpm
Number of workers	6
Size of workers	9" dia.
Worker setting	1, 2 and 3: intermeshed 4, 5 and 6: 1/4 inch
Number of passes	1

Spinning Type of frame: Whitin Model E

Number of spindles	120
Spindle speed	2500
Ring size	5-inch
Traveller size	20 grains
Front roll speed	169
% draft	32%
Yarn size	3/45¹s

Antistatic Agents

Since stock dyeing removes the original antistatic spin finish from Creslan acrylic fiber, the use of one of the following finishes is recommended:

1. Sapamine WL9-applied by exhaustion in the dyebath. A bath of 0.5% concentration following dyeing gives adequate anti-static protection and lubrication.

of stock to the card (because of the loft or bulk of Creslan acrylic fiber), normal wool settings may be employed throughout yarn manufacturing operations.

¹ Humisol MR is a product of W. H. & F. Jordan, Jr. Mfg. Co., 2126 East Somerset St., Philadelphia 34, Pa.
² Sapamine WL is a product of Ciba Company, Inc., 627 Greenwich St., New York, N. Y.
² Alubraspin is a product of W. H. & F. Jordan, Jr. Mfg. Co.
² Ahcovel R is a product of Arnold, Hoffman & Co., Inc., 55F Canal St., Providence, R. I.

Rogosin to Speak at Luncheon

Israel Rogosin, president of Beaunit Mills, Inc., will be the speaker at a luncheon meeting of the Textile Salesmen's Association Oct. 20 at the Statler-Hilton Hotel in New York City. Rogosin's theme will be the "Revitalization of the American Economy." In an interview in advance of his talk, he stated that the textile industry is closely interwoven with the overall U.S. economy, and that it is impossible to discuss the textile picture without giving full attention to the general trade movement. All persons interested in the textile and allied industries are invited to attend the luncheon. Tickets at \$3.50 each may be obtained from the Textile Salesmen's Association, 22 East 38 St., New York City.

Story of World Trade

Du Pont has published "The Story of World Trade," a booklet which describes how the international economic revolution has forced a double challenge on the United States-one from the communists and the other from our Free World allies. How the nation can build up its own industrial strength and that of its friends is a dilemma calling for nimble footwork until the world achieves a "state of grace" not now in sight, the booklet explains. U.S. tariffs, the booklet points out, can be set to compensate for average differences in production costs here and abroad and "can encourage healthy competition without impairing the strength of the United States." For free copies write the editors.



New Scott & Williams Plant in Belgium

On Sept. 15, in ceremonies attended by Belgian dignitaries, U.S. ambassador, W. S. M. Burden, and R. H. Whitehead, president of Scott & Williams S.A. in Bruges

was dedicated. The plant provides 56,000 sq. ft. of floor space for production, sales and service of Scott & Williams circular knitting machines and replacement parts for the European market.

Nonwoven Underwear Tested

Undershorts made of nonwoven material, that can be worn once and then discarded instead of being laundered, were tested by a Linden, N.J., Boy Scout Troop at the recent national Jamboree in Colorado Springs, Colo. The nonwoven undershorts are manufactured of a material made by mechanically and chemically bonding fibers into fabric form as opposed to the traditional weaving and knitting methods. Use of the disposable shorts freed the scouts from "wash day" chores. Each night the "skivvies" were burned around the camp fire.

PTI Gets Twister

The Fletcher Works, Philadelphia, Pa., has donated a new high speed 9,000 rpm duplex double twister to the Philadelphia Textile Institute, Germantown, Pa., for instructional and research purposes. The Fletcher gift is aimed at keeping the Institute equipped with the latest advancement in twisting of synthetics, textured yarns, glass, cotton and worsted yarns. Edward T. Taws, Fletcher president, is a member of the PTI Foundation and also active in alumni work.

Terrell in New Field

Terrell Machine Co., Charlotte, N.C., has been appointed exclusive sales agents for the fiberglass reinforced plastics made by Benray, Inc. Terrell's efforts are to be directed to spinning, weaving, and knitting mills. John R. Schenck of Industrial Equipment Co. will continue to handle the dyeing and finishing plants for Benray in Virginia, North Carolina, and South Carolina.

Benray makes a wide range of products for the textile industry. These include doffing boxes, slasher hoods, slasher ducts, conditioning boxes, and other items where there are corrosion problems. Fiberglass re-inforced plastic slasher ducts by Benray are being used to replace expensive stainless steel where corrosion problems existed.

Terrell representatives are located as follows: J. F. Notman, Marion, Mass., J. R. Hartmann, Greensboro, N.C., W. S. Terrell, Charlotte, N.C., Joe Cobb, Charlotte, N.C., M. H. Ridenhour, Charlotte, N.C., E. T. Gavin, Greenville, S.C., and John Scott, Griffin, Ga.

Mark Lecture Available

Copies of the Edgar Marburg Lecture, "New Polymers—New Problems," by Dr. Herman F. Mark which was presented at the 1959 annual meeting of the American Society for Testing Materials are now available at \$1 each from the the society, at 1916 Race St., Philadelphia, Pa. Dr. Mark discusses current problems in the polymer field and their behavior properties.

Moth Proof Paper

Moth-Rap, a new product to protect clothing and other woolen materials against moth damage, has been introduced by the Royal Lace Paper Division of Standard Packaging Corp. Moth-Rap, is said to be effective for the control of roaches, ants and silverfish. The new product is impregnated with a 0.5% solution of Lindane, which is odorless and protective. It is harmless to human beings and domestic animals. Sold in a cellophane wrapped roll 18-inches wide by 21-inches long, it retails for 98 cents.

Saco-Lowell Unit Moves

The International Division of Saco-Lowell Shops has moved from Boston to Easley, S.C. Improved coordination between the division and the manufacturing plants in the Carolinas, which will result in improved service to cus-

tomers, was stated by Saco-Lowell as the reason for the relocation. The firm's Textile Machinery Division at Easley, and the Gear and Machine Division, at Sanford and Jonesboro, N.C., manufacture the equipment sold in world markets by the International Division.

Bates Buys Draper Looms

Bates Manufacturing Co. has ordered a number of new wide Draper looms, which will be installed at the company's Hill Division in Lewiston, Me., according to Phillip Goldsmith, president. Goldsmith said the purchase was in line with Bates' continuing program of plant modernization, and that the latest machinery order brought to \$800,000 the amount committed so far this year for machinery improvements in the company's three Maine plants. Since 1945, he added, the company has invested more than \$17 million in its modernization program in Maine.

Wash-Wear Work Pants

A survey, conducted by Du Pont's Textile Fibers Department, indicates a high degree of consumer satisfaction with a new type of wash and wear, winter-weight work pants. Original purchasers of H. D. Lee's work trousers of 45% cotton, 38% Orlon acrylic fiber and 17% Du Pont 420 nylon, were polled. Some 88% surveyed were inclined toward repurchase, Du Pont said, and 72% said they would definitely buy another pair of the new trousers, while an additional 16% said they would "probably" repurchase. The work pants retailed last November for around \$8 a pair, under the Lee "Nyoco" trademark. Wellington Sears produced the fabric, which weighs 8.5 ounces per square yard.

Oppose U.S. Tariff Cuts

The \$2.5 billion domestic manmade fiber industry would be in liquidation if the combined excess capacity of foreign countries were used to increase fiber exports to the United States, according to Matthew H. O'Brien. The president of the Man-Made Fiber Producers Association told the U.S. Tariff Commission and the Committee for Reciprocity Information that, while this country has 29% of the world's productive capacity, it also has 22% of the world's excess capacity. In opposing further reductions in U.S. tariffs on manmade fibers at the forthcoming General Agreement and Trade (GATT) sessions, O'Brien emphasized that the U.S. now imports nearly 25% of the aggregate imports of the world's fiber producing countries, a larger share than any other fiber producing country and ships only slightly more than 9% of the world's exports.

O'Brien said that the manmade fiber industry operates 85 plants in 19 states and 54 communities, The "economic health of the domestic manmade fiber producing industry is of vital concern to a major cross-section of the U.S.," he said.

He compared the average hourly rate, including fringe benefits, of \$2.66 paid to U.S. manmade fiber production workers, to the 21 cents paid in Japan, 67 cents in Italy, 66 cents in West Germany and 84 cents in the United Kingdom. O'Brien said his association agreed with the request of the Rayon Staple Fiber Producers Association that existing tariff concessions on staple fiber be withdrawn.

Eugene L. Stewart, Washington counsel for the Man-Made Fiber Producers, in his testimony said every nation producing manmade fibers would expect to unload its surplus in the United States if duties are cut again. He contended that present rates of duty are no bar to importation of foreign manmade fibers. Peak production of 325 million pounds of rayon filament yarn was reached in the U.S. in 1951, Stewart said. It fell to 176 million pounds in 1959, he said. Meanwhile, Stewart pointed out, Japanese capacity for this yarn increased 90% from 1955 to 1959 and continues upward while the U.S. trend is still downward.

Named Rothschild Agent

Fabrionics Corp. has been appointed exclusive U.S.A. sales agents for Rothschild measuring equipment for the textile industry. Manufactured by Rothschild in Zurich, Switzerland, the line includes such devices as the Tensotron, an electronic thread tension gauge; a Static Voltmeter for accurately measuring both static charges and conductivity, and the F-Meter, for measuring co-efficients of friction in winding, twisting, spinning, beaming and knitting operations.

Booklet on Sulfated Oils

Nopco Chemical Co. has published a new booklet, GEN-4, "Nopcosulf Series, Sulfated Oils For Industrial Uses." The Nopcosulf series are true oils which are dispersible in water; they are partially soluble in many hydrocarbons and find extensive use as emulsifiers for insoluble organic compounds. Products of the Nopcosulf series represent a group of vegetable, animal and fish oils which are chemically combined with various percentages of the sulfate radical. For copies of the booklet write the editors.

New Avistrap Office

American Viscose Corp. has opened a southeastern district sales office for its new Industrial Packaging Department at 221 So. Church St., Charlotte 2, N. C. Alfred M. Lynch is district manager. The department's first product is Avistrap cord strapping, a high-tenacity rayon cord for industrial packaging. Avistrap is said to offer economy, ease of handling and increased safety for shipping personel since it has no jagged ends and does not snap if over-tensioned.

Colored Sheet Survey

A nationwide consumer survey shows that a large untapped market exists for colored bedclothes in the U.S., according to The Vat Dye Institute. An Institute spokesman said that the survey disclosed that only 36% of America's housewives have ever bought colored sheets. These represent just 19% of the total sheet inventory; colored sheets are found in 47% of U.S. homes. Most housewives, 64%, have never bought any colored sheets for their homes. Thus white accounts for 81% of the total sheet inventory in U.S. homes.

To determine the underlying reasons for the apparent lag in acceptance for color in domestics, the Institute first ordered a series of preliminary studies, conducted in 1959 by Consumer Behavior Research Associates. It was learned that receptiveness to color is strongly influenced by certain pychological factors that cut across class lines, age brackets and other classifications.

The most important practical obstacle to color acceptance in sheets is the prevalent consumer opinion that colored sheets will fade in washing. To meet these obstacles so as to reflect positively in the greater sale of higher-profit colored sheets, the Institute stated, a broad educational job is needed. Consumers must be informed that: properly dyed sheets can be thoroughly washed and do not fade; that the price differential between white and colored sheets is small and is more than offset by the special advantages of colored sheets.

Complete findings of the motivational research and statistical survey (including a special film and booklet) are being presented by the Institute to domestic textile mills and retail merchandise executives.

World Business Trends Studied

Free World nations will attain more than a 50% rise in production and a 20% gain in population during the next 10 years, according to "The Decade of Incentive," a new international study prepared by McCann-Erickson, Inc. In commenting on the world business outlook, the advertising agency said that, for "the first time in two decades, world production capacity is equal to current demands . . . At the same time, world demand and capacity are starting unprecedented expansion."

Free copies of this 30-page report printed in English, French, German, Spanish and Portuguese, may be obtained by writing the editors.

Fiberglas Fiber Booklet

Owens-Corning Fiberglas Corp. has published a 52-page illustrated booklet, "Fiberglas Textile Fiber Materials for Industry," said to be the most complete compilation of technical data on the subject yet assembled. The booklet contains sections on continuous filament yarn, treated yarn, staple fiber textile materials, cordage and sewing thread, scrim, mat, roving, chopped strands, milled fibers, fabrics and tapes, and standard packages for fiberglas textile fiber materials. For free copies of the new booklet write the editors.

Kennett Receptacles

Kennett vulcanized fibre receptables for handling textiles efficiently are described in a new 6-page bulletin available from National Vulcanized Fibre Co. Kennett roving cans, mill boxes, trays, trucks and Lestershire bobbins are included. For copies of the bulletin write the editors.

TEXTILE

- NEWS BRIEFS

Named to Award Unit

George H. Hotte, director of Allied Chemical's Fiber Marketing Department, has been appointed to the Harold DeWitt Smith Medal awards committee of the American Society of Testing Materials. His appointment is for a 2-year period. The medal was established in 1950 by the ASTM's Fiber Research Laboratories as a memorial to Dr. Harold DeWitt Smith who, prior to his death in 1947, played a leading part in the development of the American manmade fibers industry. Hotte is a past president of the American Association for Textile Technology, a member of the board of trustees, Textile Research Institute, and a Fellow of the Textile Institute, Manchester, England.

Agawam Buys Putnam

Agawam Dye Works, Inc., has purchased all assets of the Putnam Dye Works, and has moved the machinery and equipment to its affiliate, Thies Dyeing Mills, in West Warwick, R. I. Putnam Dye formerly did commission jack spool dyeing for the woolen and worsted trades. Thes Dyeing does woolen, worsted, and cotton package dyeing, glazing, and multipleend winding. Francis J. Coleman, former owner of Putnam will solicit package dyeing and spool dyeing for all of the Agawam units.

Data on Cresion

The Fibers Division of American Cyanamid Co. has published a new technical data bulletin describing the physical properties and performance qualities of Creslan acrylic fiber. The bulletin includes a run-down of basic properties, a stress-strain chart and descriptions of the texture characteristics, processability, dyeability and washability of Creslan. For free copies write the editors.

New Draper Subsidiary

Draper Corp. has formed a new subsidiary in South Carolina, Marion Industries, Inc., for the manufacture of certain wood and metal products used primarily in servicing the textile industry in the southeastern states. Contrary to many rumors, Draper said, no consideration is being given to the manufacture of shuttles at the plant near Marion, S.C. The location of the plant was chosen not only because of its proximity to the textile industry but due to its proximity to an adequate wood

supply. It is expected that some items from Hopedale and others from the Swannanoa plant in North Carolina will be transferred to the Marion facility by the end of the year. Plans for the Marion plant call for about 50,000 square feet of space, with initial employment of 30 people.

New Burlington Plant

Land clearing has begun in Cheraw, S.C. for a \$6 million textile mill, where it is reported, Burlington Industries will manufacture drapery material. C. E. Daniels Construction Co. has been commissioned to construct the plant which will contain 350,000 square feet of floor space, according to a local source.

Rayon Leaflet Offered

American Viscose Corp. has published a 4-page brochure listing a wide variety of nonwoven rayon textile products. Avisco describes nonwovens as differing from traditional fabrics because they consist of a bonded fiber web made without weaving. Rayon's economy, and efficiency particularly in hygienic and surgical products, are detailed. For copies write the editors.

Does YOUR warper have . . .

- DENSITY CONTROL?
- UNIFORM SPEED CONTROL?

ALLEN MODEL "G", the modern warper with PATENTED HYDRAULIC CONTROL, gives you...

Uniform Density of Warp throughout entire build-up.

ALLEN PATENTED HYDRAULIC CONTROL maintains uniform pressure at all times between the beam surface and the pressor roll which drives the beam. The nip between this roll and beam is always at same distance and angle, so yarn tension is kept uniform. HARD-SHELL, SOFT-CENTER WARPS ARE POSITIVELY ELIMINATED.

Controlled Uniform Yarn Speed, variable at will.

ALLEN PATENTED HYDRAULIC CONTROL, maintains uniform pressure between beam surface and driving roll, assures positively uniform yarn speed—free from the abrupt jumps in speed experienced with now obsolete methods of constantly adjusting the drive speed in an endeavor to compensate for warp build-up. In addition, ALLEN VARIABLE SPEED DRIVE enables the operator to SELECT EXACTLY THE RIGHT SPEED FOR THE YARN BEING RUN. This means your ALLEN warper is always adjusted for MAXIMUM production consistent with QUALITY.

Don't put up with old-style warping!

Put this modern warper concept to work along with your other modern equipment. Time-proved, patented,—no other warper has these features.

ALLEN COMPANY, INC.
NEW BEDFORD, MASS., U.S.A.

Request Model G Brochure

ALLEN MODEL "G"

World's Most Advanced High Speed Warper

COTTON ACETATE VINYON WOOL NYLON SARAN SILK ORLON* POLYETHYLEN FLAX DACRON* VICARA* RAYON ACRILAN* GLASS FORTISAN* TEFLON* DYNEL POLYPROPYLENE CAPROLAN CRESLAN* ARNEL WOOL RAN VEREL* SIL HH DARVAN ZE



Keeping pace with new fiber development...

TESTING TELLS THE TALE with

Atlas-Ometers

The introduction of so many synthetic fibers since World War II, while revolutionizing the textile industry, has presented problems concerning the color fastness, weathering properties, detergent reaction, and washing and wearing of these new fibers.

Controlled, accelerated and exactly duplicated tests with ATLAS-OMETERS will give you the answers—accurately and quickly—to new fiber vagaries. You will find that *one* ATLAS test is worth a *thousand* guesses.

Write for bulletins on ATLAS-OMETERS



ATLAS ELECTRIC DEVICES CO., 4114 N. Revenswood Ave., Chicago 13, Illinois, U.S.A.

Sales representatives in principal cities throughout the world

New Science Dictionary

"Modern Science Dictionary," compiled by A. Hechtlinger of Bronx High School of Science, contains over 15,000 definitions, over 500,000 words. It is said to be the first American dictionary that covers all science subjects in one volume. Published by Franklin Publishing Co., Inc., Palisade, N.J., the 784-page, illustrated dictionary is priced at \$10 per copy.

Named AviSun Distributor

AviSun Corp. has appointed Courtaulds Plastics Canada Ltd. as distributor of AviSun polypropylene polymer, film and rubber in Canada. AviSun is producing polypropylene polymer and film on a commercial basis, and expects to have fiber available sometime this year. It is currently turning out 20 million pounds of polymer annually at its Port Reading, N.J., facilities. Its polypropylene film, Olefane, is being produced at a 10 million-pound-per-year plant at New Castle, Del.

Open Reclothing Shop

Proctor & Schwartz has transferred its branch service and reclothing shop facilities to its new modern production plant at Lexington, N. C. The shop formerly was located at Spartanburg, S.C. The new plant is now manufacturing textile machinery and will also offer new and improved facilities for reclothing service, Bi-Temp wire, and a branch sales office.

Knitting Arts Exhibit

The 45th biennial Knitting Arts Exhibition will be held at the Civic Auditorium, Atlantic City, N.J., April 24-28, 1961. Co-sponsors of the event are the three trade groups for the knitting field—the National Association of Hosiery Manufacturers, the Underwear Institute, and the National Knitted Outerwear Association.

Representatives of approximately 4,500 companies in the U.S. and Canadian knitting industries, as well as those from foreign countries, will attend the 5-day exhibition

AATCC Slate Nominated

The American Association of Textile Chemists and Colorists' slate of candidates for national officers in 1961 follows: for president, Elliott Morrill, The Best Foods, Inc.; for vice president of Southern Region, A. Henry Gaede, Laurel Soap Manufacturing Co.; for vice president of New England Region, Dr. W. George Parks, University of Rhode Island; for vice president of Western Region, Joseph H. Jones, Phoenix Dye Works, and for vice president of Central Atlantic Region, William S. Sollenberger, American Viscose Corp.

1961 Feature Issues

MODERN TEXTILES MAGAZINE

JANUARY—Manmade Fibers in Home Furnishings

Timed to coincide with the big January Home Furnishings Market, this issue will report latest applications of manmade fibers in carpets, draperies, curtains and upholstery fabrics.

APRIL-Progress in Textile Machinery

This banner issue will focus sharply on the Knitting Arts Exhibition in Atlantic City, April 24-28. It will include a preview of the exhibits.

JUNE—New Opportunities in Apparel Fabrics

MTM's June issue will enlarge its special report on marketing opportunities in apparel fabrics containing manmade fibers.

SEPTEMBER—MTM's Deskbook of Manmade Fiber Facts

This information-packed section will include a summary of essential data on manmade fibers, expanded Tables of Denier Numbers and Filament Counts, and a Survey of new production facilities. There will be succinct descriptions of these new products, with trade names, summaries of their properties, and recommended end uses.

Also there will be a tabulation of manmade fibers and yarns by brand names and manufacturers, fitted under their respective generic fiber names.

OCTOBER—Wet Processing Issue

This issue will also focus on the American Association of Textile Chemists and Colorists National Convention in October with special up-to-the-minute articles on important new developments in dyeing and finishing.

NOVEMBER—Survey of Industrial Markets for Manmade Fibers

In November we will feature our annual preview of industrial uses for manmade fibers.

DECEMBER—Index Issue

MTM's December annual index is no ordinary index. Over the years it has come to be depended upon throughout the textile industry as an encyclopedic source of facts on manmade fiber utilization in textiles.

TALCOTT'S MATURITY FACTORING PLAN

lengthen
your
competitive lead

Many large textile companies have sufficient cash capital and obtain sufficient funds from their own banks. Yet they can gain competitive advantages by factoring under Talcott's Maturity Plan.

WHAT DOES IT DO?

It eliminates . . .

- a credit department
- . . . all credit losses
- ... collection costs
- . . . time-consuming bookkeeping

Major companies using this plan consider Talcott's Credit Service indispensable. With Talcott's extensive facilities and widespread risk as a background for all credit decisions, our highly trained credit specialists are able to extend liberal credit lines. Talk to Talcott now and learn how you can enjoy competitive advantages through flexible credit and capital plans.



James Talcott, Inc.

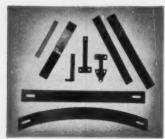
225 Fourth Ave., New York 3, N. Y. - ORegon 7-3000 CHICAGO - DETROIT - BOSTON - ATLANTA - LOS ANGELES

your no.1 source

A A B



BUNTERS



LEATHERS





LOOM PICKERS . . . RAWHIDE and PLASTIC



ROD LUBE

Send for complete information on ALL Garland textile products. Ask for special data on new Garland plastic loom pickers.



Du Pont Expands Nylon Output

New facilities to be completed in 1961 will more than double production of nylon yarn for tire cord and other industrial products at Du Pont's plant in Richmond, Va. The new equipment will incorporate a new lower cost manufacturing process said to yield superior nylon for these uses. The original plant had a rated capacity of 40 million pounds annually of heavy denier nylon yarn. Completion of the new facilities will increase capacity to over 100 million pounds at the Richmond location. Du Pont also makes tire cord yarn at Chattanooga, Tenn., and Seaford, Del.

Acrylonitrile Booklet

A 16-page booklet describing the properties, uses, handling and testing of acrylonitrile has been published by Monsanto Chemical Co.'s Plastics Division. For free copies of the booklet write the editors.

Textile School Enrollment

Although enrollment in textile colleges has dropped in the past 5 years, the colleges themselves expect enrollments to increase in the next 5 years, according to a survey just completed by Phi Psi Fraternity. George L. Logan, advertising manager of Veeder-Root, Inc., and first vice president of Phi Psi, reported a "lack of coordinated public relations program for the textile industry." Logan said Phi Psi, a textile fraternity, is prepared to "act as a focal point for such an activity in the best interests of our industry."

Takes Over Sayles Plant

Dan River Mills has taken ownership of the Sayles Biltmore finishing plant near Asheville, N.C. The newly-acquired plant will continue operation under the name of Sayles Biltmore Bleacheries, Inc.

Personnel Notes

Brooks R. Prince has been elected secretary of Reeves Brothers, Inc. He will continue as controller as well as secretary, as a director of Reeves Plastics, Inc., and as a vice president and a director of ESB-Reeves Corp.

Earl Rushon has been appointed general manager of the Franklin Process Co. division of Indian Head Mills, Inc., and Peter G. Scotese has been named general manager of the company's Finished Goods Division. James M. Flack and Charles O. Wood have been named group vice presidents-operations.

(Continued on Page 77)

U. S. MAN-MADE FIBER PRICES

This schedule lists the prices of yarns, staple and tow as reported by the producers in September 1960. All prices are given to change without notice.

CELLULOSIC ACETATE

American	Vicence	Carn
American	Viscose	COPD.

American v	130036 60	ıp.		
Current Prices	Effective	March	22.	1960

		Bright a	nd Dull		
	Int	ermediate Tw	ist**	Spinning	Twist
Denier &		Twister		Cones &	
Filaments	Cones	T-Tubes	Warps	C-Tubes	Warps
40/11	8	8	8	\$	\$1.14
45/14	****	****			1.03
55/14-20	.99	.97	1.00	.93	.87*
75/18				****	.90
75/20	.95	.93	.96	.89	.90
100/28	.91	.89	.92	.85	.86
120/32	.82	80	.83	.76	.77
150/36	****	****	****	****	.70
150/41	.74	.73	.75	.69	.70
200/54	.70	.69	.71	.66	.70 .67
240/80				.65	.66
300/80	.66	.65	.67	.62	.63
	1 0 1				

* Tricot Spools Only.

* Standard Twist 2¢ Additional.
Terms: Net 30 Days.

Celanese Fibers Company

Effective March 22, 1960 **Current Prices**

Acetate Filament Yarn Prices
Bright and Dull

		Dirigini	und Du	11		
	Interm	ediate T	wist	8	pinning T	wist
Denier and	4 & 6-Lb.		4-Pound			O Twist
Filaments	Cones	Beams	Cheeses	Cones	Beams	Tubes
45/13	\$1.12	\$1.13	8	8	\$1.03*	\$
55/15	.99	1.00			.87*	.82
75/20	.95	.96	****	.89	.90	.68
75/50	.97	.98	****		.92	****
100/26-40	.91	.92		.85	.86	****
120/40	.82	.83	****	.76	.77	****
150/40	.74	.75	.74	.69	.70	****
200/52	.70	.71	****	.66	.67	****
240/80	.68	*****		.64	****	****
300/80	.66	.67	****	.62	.63	****
450/120	.66	.67	****	.62	.63	****
600/160	.65	.66	****	****	****	1000
900/80-240	63	64				

900/80-240

• Tricot beams only. This item with Permachem—\$.05 additional.

3 to 5 turns on Cones or Beams

• \$0.2 Additional

Over 5 turns—55 denier

Over 5 turns—156 denier

• \$.04 Additional per Turn

Over 5 turns—150 denier

• \$.03 Additional per Turn

Over 5 turns—150 denier

S.03 Additional per Turn

Over 5 turns—150 denier

\$.03 Additional per Turn

S.05 Additional per Turn

S.07 Additional per Turn

S.08 Additional per Turn

S.09 Additional per Turn

S.01 Less than 4-lb. Cheeses

2-BU and 4-BU Tubes

Same price as 4 & 6-lb. cones

Perenium for Serving Tubes

\$.05

Part Cone Premiums: 2-lbs

\$.05

Under 1-lb.

\$.10

Under 1-lb.

\$.20

Celcurer Filement Yorn Prices

Celaperm Filament Yarn Prices

Denier and	4 & 6-Lb.			
Filaments	Cones	Beams	Cones	Beams
55/15	\$1.37	\$1.38	\$1.31	\$1.32
75/20	1.34	1.35	1.28	1.29
100/26	1.28	1.29	1.22	1.23
120/40	1.19	1.20	1.13	1.14
*150/40	1.11	1.12	1.06	1.07
200/104	1.05	1.06	1.01	1.02
300/80	1.01	1.02	.97	.98
450/120	.99	1.00	.95	.96
600/160	.97	.98		****
900/240	.94	****	100	

900/240 ** 150/2Z/40 available in all colors. Contact our District Sales Representative for current availability of colors in other denier.

Over 5 turns**—75 denier ... \$.06 Additional per Turn

Over 5 turns**—75 denier ... \$.04 Additional per Turn

Over 5 turns**—150 denier ... \$.03 Additional per Turn

Over 5 turns**—150 denier & coarser ... \$.02 Additional per Turn

Celaperm Black Yarn Prices

Effective March 22, 1960

	Intermed	liate Twist	Spinni	ng Twist
Denier and	4 & 6-Lb.			
Filaments	Cones	Beams	Cones	Beams
55/15	\$1.17	\$1.18	31.11	\$1.12
75/20	1.14	1.15	1.08	1.09
100/26	1.08	1.09	1.02	1.03
120/40	.99	1.00	.93	94
150/40	.91	.92	.86	87
200/52	.85	.86	.81	.82
300/80	.81	.82	77	.78
450/120	.79	.80	.75	.76
600/160	.77	.78		
900/80	.74		****	****

900/80
Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A.
Prices subject to change without notice.
All previous prices withdrawn.
Note: Prices on unlisted items can be obtained upon request.
Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

> "Acele"* Acetate Bright & Dull

	Zero	Twist	Low	termedi	ermediate Twist			
Denier & Filament	Tubes	Beams	Cones	Beams	\$ 4 1 Lb.	4 & 6 Lb. Tw. Tbs.	Cones	Bms.
45-13 55-18	.94	1.02					8.99	01.00
55-24	.82	.86		.91			.99	\$1.00 1.00
75-24	.86	.89		.90		\$.93	.95	.96
75-50	.00	.00		.92		.95	.97	.98
100-32	.82	.85		.86		.89	.91	.92
120-50	.73	.76		.77		.81	.82	.83
150-40	.66	.69	\$.69	.70	.74	.74	.74	.75
200-60/64	.65	100	.66	.67	.70	.70	.70	.71
240-80			.65	.0.			.69	
300-80	.60	.62	.62	.63	.66	.66	.66	.67
450-120	.61		.62	.63	.66	.66	.66	.67
600-160			.62		.65		.65	.66
900-44					.63		.63	.64
900-240	.61**				.63		.63	.64
1800-88					.61		.61	.62
2700-132					.61		.61	.62
3000-210					.61		.61	.62

(A) Regular Twist (2.9 and 5 T.P.I.)—add \$.02 to Intermediate Twist Price.

(B) 1 lb. %" Tubes—add \$.02 to 2 & 4 lb. %" Tube Price.

** Bright only 2" Tubes.

Calas Canlad

			COIC	or-Sea	ied			
	Zere	Twist	Lew	Twist		Intermed	late Twi	at
Denier &					Twis	ted Tubes		
Filament	Tubes	Beams	Cones	Beams	2 Lb.	4 & 6 Lb	. Cones	Beams
55-18	\$1.245	\$1.315	**		\$1.35	\$1.35	\$1.37	\$1.38
75-24	1.18	1.28		1.29	1.32	1.32	1.34	1.35
100-32	1.14			1.23	1.26	1.26	1.28	1.29
150-40	1.03	1.06	1.08	1.07	1.10	1.11	1.11	1.12
200-64					1.04	1.05	1.05	1.06
300-80	.95	.97		.98	1.00	1.01	1.01	1.02
(A) Res	rular Tv	vist-A	1d \$.02	to Inte	rmedia	te Twist	Price.	

Black Zero Twist Low Twist Intermediate Twist Denier & Filament 40-13 55-18 75-24 100-32 150-40 200-60 300-80 450-120 600-160 900-240, 44 (A) Reguii Tubes \$1.215 1.045 \$1.17 1.14 1.08 .91 .85 .81 .79 .77 1.08 .98 \$1.09 1.12 1.15 1.09 .92 .86 .82 .80 .78 .75

	Tubes	Beams
40 10 37-41		
40-13 Natural	\$1.07	\$1.14
55-18/24 Natural	.83	.87
75-24 Natural	.87	.90
100-32 Natural	.83	.86
Type 20	Same Price as Regular Yarn	
Type C	Same Price as Regular Yarn	
	Thick & Thin	
	THICK & THIN	

Denier & Natural Black Color-Scaled Filament Cones Beams Cones Beams Cones Cones 200-64 Int. Twist \$1.05 \$... \$1.15 \$... \$1.25 \$... \$1.

Eastman Chemical Products, Inc.

Tennessee Eastman Co.

Current

*** Tricot only.

41	"Estro Regul Twis	BF	Yarn, Intermed	diate		Dull Twist	Zero Twist	hite Tri Bes	
Denier Filame	Cones	Beams	Cenes	Beams	Cones	Beams	Tubes	Span	Zere
55/13	\$1.01	\$1.02	\$0.99	\$1.00	\$0.93	30.94	\$0.82	\$0.87	\$0.86
75/19	.97	.98		.96	.89	.90	****	.90	****
75/49	.99	1.00		.98		****	****	****	****
100/25	.93	.94		.92	.85	.86	****	****	****
120/30	.84	.85		.83	.76	.77	****	****	
150/38	.76	.77	7 .74	.75	.69	.70	.66	****	100
200/50	.72	.73	.70	.71	.66	.67		****	****

300/75 450/114 600/156 900/230 Heavier	.68	.69 .68 .68 .	86 .67 86 .67 85 .66 63 .64	.62 .62 .62	.63 .63	****		9823 9847 9885 9934 "Spun Dyed
Current								pound extra."
"Chron	nspun	"*S	tandara	d Colo	rs (Ex	cept E	Black)	Code
Denier & Filament		liar Twi		mediate as Be	Twist	Low	Twist Beams	Code 9699
55/13 75/19	\$1.39	31.4	0 #1.3	7 81	1.38	\$1.31	\$1.32 1.29	9769 9782
100/25	1.36			8	.35	1.28	1.23	9809 9840
150/38 300/75	-001		1.1	1 1	1.12	1.06	1.07	9924
450/114 900/230			9		.95	.95	.96	"Spun Dyed (Terms: Net 3
Current Pr								lowed to consist River. To point
			spun"*-					lowed to Mempi er's risk. Merch
Denier & Filament	C	lar Twis	Cones		Beams	1	r Twist Beams	its affiliates is a Prices are sul
55/13 75/19		1.19 1.16	\$1.17 1.14		\$1.18 1.15		\$1.12 1.09	American E
100/25 150/38		1.10 .93	1.08		1.09		1.03	Current Prices
200/50 300/75		.87	.85		.86		.82 .78	Effective Febru
450/114 900/230		.81	.79		.80		.76	Standard Qual
Prices are			.74 ge withou		.75			
Prices on Terms: N	et 30 day	items qu	nent—U.S.	quest.	ars.			#
Terms: N Transportinental Unroute and to a route	tation ch	narges p	repaid or	allowed	to de	stination	in con-	./Fill.
route and	method	of shipn	nent. If B	uyer re	quests	and Selle	er agrees	Den
pay the ex-	or methodes of t	ranspor	lving high	and ta	lowest x.	rate Bu	yer shall	50/18 E
* "Estron	" is a tr	ade-mai	rk of the I mark of t	Eastman he East	Kodak man Ko	Compar	ny. mpany.	50/20 E
	_							75/18 E
RAYO	-							75/30 E
America		berg						75/45 75/60
Current Pr		- D	d	D11		V -		100/14 E 100/40 E
	Keguio	Turn	duction	Keel :	opun	Yarn	& Cones	100/40 E
Den/Fil	Turn	Ske	ins 814	1	12	15	18	100/40 100/60
40/30	\$1.49	\$1.6			urns	Turns	Turns \$2.08	100/60 E
50/36 65/45	1.29	1.5 1.3 1.3	55 38	\$	1.61	****	1.85 1.66	100/60 E 125/40 E 125/50 E 150/40 E 150/40 E
75/60°° 100/74°°	1.11 1.02	1.3	15		1.48 1.40	\$1.53 1.45	1.56 1.51	150/40 E
125/60 150/120	1.01	1.1	2 \$1.1	6	1.37 1.33		****	150/40 E
300/225	.00	1.0)1		1.33	1.14	****	150/90 E
900/744 1800/744	****		01		****	****	****	200/40 E
1800/744 Turn i to 5 turns	ncludes on heavi	twists u er denie	p to 6 tur	ns on 4	0 and 5	0 denier	, and up	250/60 F 300/30 E
o 5 turns o	Jvea Cui	bracolor	BIRCK IDE	Der ID.	extra.			300/40 E
	Ne	No No	H Spool	Spun	12	12	15	300/60,120 E
Den/Fil	Turn	Turn Beams	Turn	Turn	Turn Beams	Turn	Turn	300/60 E
40/30 50/36	\$1.35	\$1.35 1.05	****	****	****	Concs	****	300/120H.T. E
65/45	1.05	1.00	****	****	\$1.38	\$1.50 1.38	****	300/40H.T. E 450/60 E 450/80 E
75/45° 100/60°	1.04	****	\$1.15 1.10	\$1.15 1.10	1.38	1.38	\$1.46 1.38	450/80 E
125/60 150/90°	.91	****	1.06	1.06	1.21	1.21	1.30	600/120 E
150/120	.87	****	Dyed Cupr	.99	****	****	****	900/120H.T. E B = Brig
Avanab	'44" H	HH "P	arfe" S	pool S	Dun \	Yarn	ID. EXSTA.	P = Perl
Den/Fil	No Ti	urn	5 Turn	5 Turn	12	Turn	15 Turn	
50/36	\$1.6	0	Cones \$1.85	Beams \$1.85		ones	Cones	Den./Fil.
75/45 100/60	1.4		1.58	1.58		1.78	1.88 1.78	100/40
150/90 300/120	1.2	1	1.28 1.28	1.28		1.63	1.73	150/40 200/40
000/ 180			ite (Sho	ort Nu	bbi)	****	****	300/120 450/80
			236 Turn		5	Turn	& Town	600/80 300/40
Code	Den/		Natural Cones	234 Tu Cone	1* C	tural ones	5 Turn Cones*	900/120
1515 1519**	160/1	90	****	***		\$1.50 1.50	\$1.40 1.40	Registered Yarn.
2008 3002	200/3 315/	120	\$1.15	\$1.05		1.11	1.01	Skylo
4011 6001	410/3 600/3	224	1.15 1.13	1.08	i	****	****	
	860/	450	1.13	1.03	3	****	****	Denie
8001	price for	r cones Prices b	when dyes	d. Dyed 00 lb. d	Colors yed lots	30 and	35 cents Prices for	Denier Filar
* Basic above basic	n skeins	same a	s natural	cone pri	ces.			2200 15
* Basic above basic natural yar		CU	PIONI	Type	В		216 Turn	2700 15 5300 15
* Basic above basic	519 Can		Den/Fil	,,			Cones	American V
* Basic above basic natural yar ** Code 1	519 Can						\$1.69 1.53	Effective Octo
* Basic above basic natural yar * Code 1 Cede 9650 9660	ols can		70/45 100/60					Lifective Octo
* Basic above basic natural yar ** Code 1 Cede 9650 9660 1545 9730	SIS Can		100/60 150/90 285/135				2.30	Lifective Octor
8001 * Basic above basic natural yar ** Code 1 Code 9650 9660 1545 9730 9792	SIS CAN		100/60 150/90 285/135 450/225				1.15 1.15	1
8001 Basic above basic above basic natural yar Code 1 Code 9650 9660 1545 9730 9792 98814 9837			100/60 150/90 285/135 450/225 600/372 940/372		-d 6/2	lam!	1.15 1.15 1.12 1.02	nent
**Basic above basic above basic natural yar ** Code 1 Code 0650 9060 1545 97730 9792 8814		racolor s	100/60 150/90 285/135 450/225 600/372 940/372 is spun 150 lack Come), 285, as	nd 940 deniers	deniers a	1.15 1.15 1.12 1.02	nent
* Basic * Basic * Basic * Basic * Basic * Basic * Code * Code * Code * Code * Solution * Solution		racolor B	100/60 150/90 285/135 450/225 600/372 940/372 is spun 150 lack Come	SLUB			1.30 1.15 1.15 1.12 1.02 it 35¢ per	Denier Filament
**Basic above basic natural yar ** Code 1 Code 9650 9650 9650 9730 97792		racolor s	100/80 150/90 285/135 450/225 600/372 940/372 is spun 150 lack Come	SLUB	nd 940 deniers		1.15 1.15 1.12 1.02	nent

9823 9847 9885 9934 "Spun Dy pound extra.	1 2 ed Cuprac	600/372 960/372 290/372 680/744 color is spun	in 600	2: 2: 1: 1: and 6	1/2 1/2 1/2	niers	at 35¢	1.10 1.02 1.00 1.00 per
lowed to Me er's risk. Me its affiliates Prices are	ed Cupracet 30 days soints west mphis, Tererchandise is sold F. subject to Enko	FLAIR Den/Fil 150/148 300/224 450/270 600/380 900/450 000/744 olor Black 31 , F. O. B. sh nearest freig of the Missennessee. Goo transported O. B. delive o change wit Corp.	of per pripring the state in seller point	pound point. ion er shipper's ovt.	extra Mini	," mum	freigh	Price 1.35 1.25 1.05 1.05 1.00 .95 t al- sippi t al- buy-
Current Price Effective For Standard Q	ebruary 2							
	,	NATU		aving	SI	ceins		
Den./Fil.	Laster	Turns	Cones	Beams	Long	Short	Cakes	Knitting
50/18 50/20	EB	5 S 4 S&Z	****	****	****	****	1.52	1.63 1.64
75/10 75/18 75/30	B E B	3 S&Z 4 S 2.5,4S&Z	1.14	1,14	1.32	1.41	1.02	1.14
75/30 75/45 75/60	B P,E B,P	8 S 2.5,4,5S&Z 3,4 Z	1.24 1.14 1.16	1.14	1.49	1.59	1.12 1.02 1.04	1.24
100/14 100/40 100/40	B B,E B,P,E	3 S&Z 12 S&Z 4,5 S&Z		.98	1.15	1.23	.90	1.29
100/40 100/40	B B,P	6 S 2.5,4S&Z	1.17	.98	1.34	1.44 1.23	1.09	
100/60 100/60 125/40	B E E	4 S&Z 2.5 S 3 Z	1.00	1.00	****	****	.90 .92 .87	.90
125/50 150/40 150/40	B,P B,E B,P,E	3 S 0 2.1,3S&Z	.96 .745 .82	.96	.96	1.03	.78	.82
150/40 150/40	B,E B,E	5 S&Z 8 S&Z	.90	.90	1.15	1.25 1.30	.86	****
150/90 200/40 200/40	E B P	2.1 S&Z 2.1 S 3 Z	.83	.83	.94	1.01	.79 .77 .77	.81
250/60 300/30 300/40	P,E E B	2.4 Z 3 S 3.2 Z	.81 .73	.85	.93	1.00	.77	.80
300/50 300/60,120	B,E B,P,E	3 S 2.1 S&Z	.73	.76	.82	.89	.71	.73
300/60 300/60 300/60	B B	3.5 S 6 S 8 S	.73 .86 .88	.73 .86 .88	.82	1.00	.84	****
300/120H.T. 300/40H.T. 450/60	B B	2.5 S 3 Z 3 S	.75 .85 .69	.75	****	****	.73 .83 .67	1444
450/80 600/80	B,E B,E B,E	3 S 3 S	.69 .73 .69	.71 .75 .71	.78	.85	.67	****
600/120 900/120 900/120H.T.	B	3.4 S 3.4 S	.69	.71	.78	.85	.67	****
B = 1	Perlglo (Se		H.T.	= H	igh Te	nacity	7	
Den./Fil.	Jet	spun® (Co	V	Veavin Cones	g	Beams	C	olors
100/40 150/40 200/40 300/120 450/80 600/80 300/40 900/120 @ Register	Regul Regul Regul Regul Regul High	lar 2.5 lar 2.1 lar 8.0 lar 2.1 lar 3.0	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	\$1.35 1.17 1.28 1.09 1.05 1.04 1.11		\$1.35 1.17 1.28 1.09 1.05 1.04 1.11 1.06		All All All All All
Yarn.	yloft (L	ofted Ray latural an	on Fi	lame	ent \	arn:	s)	
	enier per ilament	Twist	Nat	C	ones	or Tub ack	0	her
1000 2200 2700 5300 American Effective O	7.5 15 15 15 15 Viscos	3.5S 3.5S4Z 3.5S4Z 3.0S4Z se Corp.	\$	82 67 67 65	\$1	.05 .77 .77 .75		.05 .84 .84 .82
ier				ins o	tus.		slo	sea
Denier		Pagnia.	9 9	Ske	Ske	Tab	Spo	Cak
75 10-30	Brig	Regular	\$1.41	\$1.3		14 \$	1.14	1.02

100 150 150 150 200 250 300 300 300 450 600 900 1200 2700	60 24-40 40 40 90 10-44 60 15 30 44 42 234 60-100 100 50-100-150 75	Bright	ull & Dull t Filament & Dull	1.03 1.03 1.01 1.01 1.00	.96 .96 .93 .85 .82 .78 .78 .78 .78	1.00 .82 .82 .82 .83 .81 .80 .78 .73 .83 .69 .69	1.00 .82 .82 .82 .81 .80 .78 .85 .73 .71 .71 .71	.92 .78 .78 .79 .77 .77 .71 .81 .67 .67
		Ext	ra Turns	Per	Inch			
150 200 300 300 300 300 600	40 44 15 44 44 120 30	Bright Bright Bright Bright Bright Rayflex Bright	6-Turns 6-Turns 5-Turns 4.3-Turns 6-Turns	\$1.25	\$1.15 1.05 .90	\$.90 .96 .86 .81 .86 .93 .82	\$.90 .96 .86 .86 .93 .82	\$.88 .79 .84 .80
			Rayflex	Yarr	IS			
150 200 300 450 600 900	40-60 75 60-120 120 234 350	Rayflex Rayflex Rayflex Rayflex Rayflex Rayflex		\$.80	\$.85 .84 .75 .71 .71	\$.85 .84 .75 .71 .71	\$.81 .80 .73 .69 .69
		Th	ick & Th	in Y	arns			
150 200 300 450 490 900 920	40-90 75 120 100 120 350 120	Bright & Bright & Bright & Bright & Dull Bright &	& Dull & Dull & Dull & Dull	\$	\$	\$1.18 1.08 .98 .92 .98 1.03 1.03	\$	*
		C	colorspur	Yar	ns			
75 100 150 200 300 450 600 900 300 450 900 300	er.		Type Regular Str High Streng High Streng Regular Str	ength	5-Turns	1	Cenes/? 3eams/: \$1.: 1.: 1.: 1.: 1.: 1.: 1.: 1.: 1.: 1.:	Speels 71 35 17 14 09 05 05 05 11 06
			Avicron	Yarn	S			
Denie 1800 2700 2700	10 15		S	ingles ingles ingles		F	Cones/I Beams/S \$.6 .5	Speels 1 8
			se Filan					
 The f	Metal Tric	cot Spool	21" flan 32" flan 32" flan Racks—14" 21" 32"	ge ge flange flange	********	30.00 60.00 150.00 135.00 100.00 75.00 20.00	each each each each each each	
San	Cloth Cal	ke Cover	B			.05	each	ollect.

Celanese Fibers Company

Effective June 24, 1959

Viscose Rayon Filament Yarn Prices-Bright and Dull

Denier/Fil/Twist 75/30/3	Beams	Cones	Cakes
		1.10	.98
100/40/2Z	.97		
100/40/3		.96	.88
100/40/5		1.02	100
100/60/2Z NS		.96	
100/60/3		.98	.90
125/40/2Z	.93	.00	.90
	.93		
125/40/3		.94	.85
150/40/0 NS		.741/2	
150/40/2Z	.81		
150/40/3		.79 1/4	.76
150/40/5		.90	.86
150/40/8		.95	.91
150/90/0 NS		.771/4	-91
250/60/0 NS		.74	
250/60/3		.80	.77
300/50/0 NS		.70	
300/50/2Z	.72		
300/50/3		.701/2	.69
450/120/0 NS		67	100

480/120/0 NS
Terms: Net 30 days. Transportation prepaid or allowed to any
destination in U. S. A. A. Prices subject to change without notice.
All previous prices withdrawn.
Prices on unlisted items can be obtained upon request.
Orders are subject to conditions of sale appearing on our acknowledgments of orders.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices Effective with orders June 24, 1959

Bright and Dull

			Bright and Dui	1		
		Turns/				
		Inch			Cones (A	
Den.	Fil.	Up to		Beams	Tubes	Cakes
40	20	3	Textile "Cordura"*		\$1.97	\$1.92
50	20	3	Textile "Cordura"		1.72	1.67
50	35	3	Textile "Cordura"		1.77	
75	10	3	Bright			1.02
75	30	3333333333		\$1.14	1.14	1.02
100	40	3	Bright	.98	.98	.90
100	60	3	Dull		1.00	.92
125	50	3		96	.96	.87
150	40	3		.82	.82	.78
150	60	3	Bright	.82	.82	.78
150	60	3	Textile "Cordura"		.875	.845
150	90	3	Dull		.83	10 40
150	100	3	Dull		.83	
300	50	2.5	Dun	.73	.73	.71
300	120	3	Textile "Cordura"	.74	.74	.72
450	72	2	Textile Coldula	.71	.69	.67
600	96	3 3 3	Bright	.71	.69	.67
600	240	3	Textile "Cordura"	.72	.70	.00
900	50	3	Bright	.71	.69	.67
900	144	3	Bright	.71	.69	.67
1165	480	3	Textile "Cordura"	.72	.70	.68
1800	100	3	Bright	.14	.69	.00
2700	150	3		.71	.69	
2700	150	3	Bright	.11	.00	
			Thick and Thin			
100	40	3	#7 Bright		1.42	
150	90	3	#7 Bright		1.08	
200	80	3 3	#7 Bright		1.08	
450	100	3	#7 Bright		.92	
1100	240	3	#60 Bright		1.03	
2200	480	3	#60 Bright		.98	
			Monofils			
300	1	3	Bright	1.15	1.10	
600	î	3	Bright	2120	1.00	
550						
			Plush			
300	30	3	Dull	.85	.81	

300 30 3 Dull
(A) 2¢/lb. additional for cones less than 3#.

Terms: Net 30 days.

Domestic Freight Terms are F.O.B. shipping point, freight pre-paid our route within the continental limits of the United States, excluding Alaska.

""CORDURA" and "SUPER CORDURA" are Du Pont's registered trade-marks for its high tenacity rayon yarn.

Industrial Rayon Corp.

Effective June 29, 1959

Continuous Process Textile Yarns

Denier	Fila- ment	Turns per In.	Туре	Beams	2.8# Cones	Cones and Tubes
150	40	2.5"S"	Bright	.82	.82	
200	20	2.5"S"	Bright	.81	.81	
300	44	2.5"S"	Bright	.73	.73	
450	60	2.0"S"	Bright	.69		.69
600	90	1.5"S"	Bright	.69		.69
900	50	2.0"S"	Bright	.69		.69
900	150	2.0"S"	Bright	.69		.69
1100	480	2.0"Z"	Bright extra			
			strong	.66		.66

Lustre #4 is semi-dull.

Prices are subject to change without notice.

Strawn Monofilament

Denier	Fila- ment	Turns per In.	Туре	4.4# Cones	Speeds and Tubes
450	1	0	Bright and Dull	1.00	1.05
450	1	2	Bright and Dull	1.00	1.05
1250	1	0	Bright and Dull	1.00	1.05
1250	1	2	Bright and Dull	1.00	1.05

Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges prepaid with transportation allowed at lowest published rate to all points in continental United States except Alaska.

Prices are subject to change without notice.

North American Rayon Corp.

Current Prices

		Knitting*	No Twist Knitting	Weaving Cones, Velvet Cones, Beams,	Untreated
Denier/Filament	Twist	Cones	Cones	Tubes**	Cakes
Normal Strength					
Yarns — NARCO					
75/30	3.5			1.14	1.02
75/30	7			1.27	
75/30	12			1.35	
75/30	15			1.37	
75/30	15 20			1.40	
100/40/60	3.5			.98	.90
100/40	12			1.22	
125/25/60	3			.96	.87

150/42 150/42/60 300/75	0	.80 1/2	.74%	.82	.78
300/75 900/46	3 2.5	.73	.71	.73	.71
1800/92	2.5	.69		.69	

Olded Cones \$.01 per pound extra for Graded Yarns only.
1 lb. Tubes \$.02 per pound extra for Graded Yarns only.
1 lb. Tubes \$.02 per pound extra for Graded Yarns only.
Terms: Net 30 days, F.O.B. shipping point, minimum freight allowed to consignee's nearest freight station east of the Mississippi River minimum freight to Memphis, Tennessee allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point.
Frices subject to change without notice.

TRIACETATE

Celanese Fibers Company Current Prices Arnel Yarn Prices Bright & Dull

9, 1958		
		Thick and
Cones	Beams	Thin Cone
\$	\$1.16	\$
1.32		
		200
		24.47

		1.25
	.00	1.23
	.00	1.40
98	.81	1.01
	\$	Cones Beams 5 \$1.16 1.52 1.33 1.16 1.21 1.22 1.14 1.15 95

600/2Z/160

3 to 5 Turns on Cenes or Beams—\$.02 Additional Premium for Black Arnel—\$.25 Per Pound Premium for Navy Arnel—\$.27 Per Pound Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A.

Prices subject to change without notice.
All previous prices withdrawn. Note: Prices on unlisted items can be obtained upon request. Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

CELLULOSIC HIGH TENACITY YARN and FABRIC

American Enka Corp. Effective August 1, 1960 Industrial Yarn Prices

Prices Subject To Change Without Notice Standard Beams Cones 54.5 .57 47.5 .50 46.5 .49 46.5 .49 Denier/Filament 1100/720 1650/1100 YARNS & FABRICS FOR TIRES TYREX 2200/1440 3300/2160 1100/720 TYREX FABRIC 66.5 56.5 55.5 1650/1100 2200/1440 1230/720 1600/1100 YARNS FOR MECHANICAL GOODS SUPRENKA M — High Elongation .57 .52 .50 54.5 49.5 47.5 46.5 46.5 53.5 53.5 45.5 45.5 45.5 53.5 60.0 49.0 1800/1100 1870/1100 2200/1440 .49 2400/1440 49 3300/2160 3650/2160 1100/720 1650/1100 .49 .49 .57 SUPRENKA MS -Low Elongation .49 .49 2200/1440 3300/2160 TEMPRA -1230/480 1230/480 (5.5Z) High Elongation .60 .49 .48 .48 .48 1230/480 (1820/720 2200/960 2400/960 3650/2160 1100/480 Low Elongation 1650/720 3300/2160

.48 .56 .60 .49 TEMPRA - CHAFER YARN 1100/480 1130/480 (5.0Z) 1650/720 1230/480 1750/720 TEMPRA — SEWING YARN
(Also available in Red at 5¢ premium) .50 .49 .75 1820/720 300/120 900/120 REGULAR TENACITY 900/120 11.0 .11
Terms: Net 30 days, f.o.b. Enka, N. C., or Lowland, Tenn.; minimum freight allowed to first destination east of the Mississippi River.

American Viscose Corp. Effective Dec. 23, 1959

Tyrex*

Tyrex* Viscose Tire Yarn Filament Twist Beams Cones .57 980 980 1500 .57 .57 1100 0 Z .50 1650 1500

Tire Fabric Made with Tyrex* Viscose

		Tire Yarn and Co	ord	
Denier	Filament	Carcass	Top Ply	Breaker
1100	980/2	.69		.69
1650	1500/2	Factor Open-525	300-490	115-275
Factor	determined h	.59	.60	.625

Tyrex is a collective trade-mark of Tyrex Inc. for Viscose Tire Yarn and Cord.

Rayon Tire Yarn

			Tam				
Denier	Filamen		High Strength (Unslashed)	High Strength	Super 210-310	"Ra 120	yfiex" -220-320
1100	490	0-Z		.56			
1100	980	0-Z	4.44	****	****		.57
1150	490	Z	.56		****		****
1230	490	Z	.56	****	****		****
1650	980	Z	.49	.49	.49		****
1650	980	0	****	.49	****		***
1650	1500	0 Z	****	****	****	- 2	.50
1650	1500	0	****	****	****		.50
1875	980	0 Z	.49	****	.49		.50
2200	980	0	1997	.48	****		****
2200	1500	0	****	****	****		.49
3300	3000	0		****	****		.49
4400	3000	0	****	****	****		.49
High	Strength	available		ubes-bear	ns.		

High Strength and Super "Rayflex"

0 Twist—available on 10# cones—beams—10# tubes. Z Twist—available on beams.

Avisco Baa Twine

Sold by The	American Thread	Company	
1100/980 Super "Rayflex"	0-Z	Cones	.62
1500/980 Super "Rayflex"	0-Z	Cones	.59
1780/980 Super "Rayflex"	0-Z	Cones	.55
Also available in red at	.07 premium.		

Chafer Yarn

1100/490 High Strength
All yarns sold "Not Guaranteed for Dyeing". Twist .60

Tire Fabric

	Litte-						-
Denier	ment		Type		Carcass		Breaker
1100	980	Super	120-220-320		.69	.69	
				Factor*	Open-525		115-275
1650	980	Super	110-210-310		.58	.59	.615
1650	1500	Super	120-220-320		.59	.60	.625
			ed by dividir	g total e	nds by pic	ks.	
			regular Tire				rices.
			inations—pric				
TITLE	f ranto	Mad a	arns and cord	le in smoo	d on requi	or take n	remiums
		med, y	irns and core	is in spec	nat packag	es take p	Lemmanns
indicate							
			vell Tubes				
1	.5 lb	Regular	r Braider Tu	bes			6
		Tubes					5
The	follow	ing den	osit charges	are made	on invoice	es:	
	Beams					\$55,00 ea	ch
)			75.00 ea	ch
	abric	Sneu .	Rolls			3.50 ea	L == 17==4
Same	to be	e credit	ed upon retu	rn in goo	od condition	n—ireign	conect.

Rayon Tire Yarn and Fabric

Terms: Net 30 days. Seller to select and to pay transportation charges of common and contract carrier except when shipment moves West of the Mississippi River, in which event the actual cost of transportation to the Mississippi River crossing based on the lowest published freight rate, shall be allowed. Title to pass when merchandise is delivered to consignee. Transportation allowance based on lowest published volume rate shall be granted if merchandise is transported from shipping point in vehicle owned or leased and operated by buyer and title to pass when merchandise is delivered to same.

same.

Price subject to change without notice.

Celanese Fibers Company

Effective December 27, 1955

	-orti	san	Yorn Prices			
Denier	Paci	kages	Natu	ral	Blac	
30/2.5/40	2 lb.	Cones	\$3.00	lb.	\$3.35	
60/2.5/80	4 "	91	2.40	21	2.75	
90/2.5/120	4 "	99	2.25	10	2.60	
120/2.5/160	4 "	20	2.05	**	2.40	
150/2.5/180	4 "	0.0	1.95	99	2.30	90
270/2.5/360	4 "	99	1.85	99	2.20	89
300/2.5/360	4 "	99	1.85	0.0	2.20	99
3007 2.07 300	CO 1		numerid to one	destination	In TT C	

300/2.5/380 days. Shipments prepaid to any destination in U.S.A. Prices subject to change without notice. All previous prices withdrawn. Prices on unlisted items can be obtained upon request. Orders are subject to conditions of sale appearing on our acknowledgments of orders.

Fortisan-36 Rayon Yarn Bright

Twist	1# cones	8# cones	Tubes	Beams
		Can Conce		
0.8Z	\$1.75			\$1.70
0			\$1.75	
0.8Z	\$1.25	\$1.25		\$1.20
32	\$1.40			
0			\$1.25	
0.82	\$1.15	\$1.15		\$1.10
2362	\$1.30			
0			81.15	
	0.8Z 3Z 0 0.8Z 2 1/2 Z	Twist 1# cones 0.82 \$2.30 0.82 \$2.05 3Z \$2.20 0.8Z \$1.75 0 0.8Z \$1.25 3Z \$1.40 0 0.8Z \$1.15 2\forall Z	Twist 0.82 52.30 8± cones 0.82 52.35 32 52.26 0.82 51.75 0.8Z 51.25 51.25 32 51.40 0.8Z 51.15 51.15 2\(\frac{1}{2}\)\(\frac{1}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\	Twist 0.8Z 52.30 8± cones Tubes 0.8Z 52.30 52.05 32 52.20 0.8Z 51.75 0.8Z 51.25 51.25 32 51.40 0.8Z 51.15 51.25 51.25 0.8Z 51.30 51.15

1600/1600 0 83.1.5

Terms: Net 30 days. Shipments prepaid to any destination in U.S.A. Prices subject to change without notice.

All previous prices withdrawn.

Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.



John J. Rieck

S. G. Palmgren

John J. Rieck and Stig George Palmgren have been appointed vice presidents of Von Kohorn International Corp.



H. W. Barrow

Harry W. Barrow has been named advertising manager of The Dow Chemical Co.'s Textile Fibers Department. Albert E. Sasseen has been appointed as technical sales-representative in the Atlanta territory for Putnam Chemical Corp.

William Meehan has been assigned as a salesman in the New England states for the Geigy Dyestuffs Division of Geigy Chemical Corp. Elliot Nelson has been appointed senior research and development chemist in the division's textile pigment research and development laboratories.



O. E. Herzog

O. E. Herzog has been appointed manager of the mill marketing relations department of American Enka Corp., with headquarters in New York City.

Samuel L. Fuller has joined the staff of the Industrial Merchandising and Product Development Department of American Viscose Corp. in New York.

Harold H. Clark has been named resident sales engineer in the Akron, Ohio area for Spadone Machine Co.

Crawford C. Madeira, Jr., has been promoted to the newly-established position of director, commercial development, for The Chemstrand Corp.



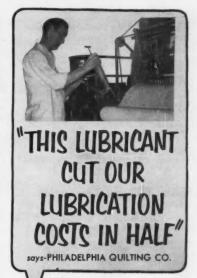
H. G. Fiedler

Hans G. Fiedler has been elected senior vice president of Textile Machine Works.

Royden Walters, executive vice president and general manager of Saco-Lowell Shops, has been elected to the board of directors.

M. Earl Heard, Jr., has been promoted to assistant to the vice president of the firm's International Division. Joe M. Glenn has been appointed sales engineer for the firm's Textile Machinery Division.

(Continued on Page 85)



V"Trouble from conventional greases floating off hot shafts of our quilting machines caused us to try a LUBRIPLATE Lubricant. It proved so satisfactory that we are now using it as an 'all-purpose' grease throughout our plant. We feel that LUBRIPLATE is saving us 50% in lubrication costs."

W. Szczepanski, Chief Maintenance Engineer

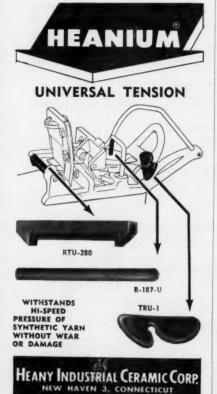
REGARDLESS OF THE SIZE AND TYPE OF YOUR MACHINERY, LUBRIPLATE GREASE AND FLUID TYPE LUBRICANTS WILL IMPROVE ITS OPERATION AND REDUCE MAINTENANCE COSTS.

LUBRIPLATE is available in grease and fluid densities for every purpose . . . LUBRIPLATE H. D. S. MOTOR OIL meets today's exacting requirements for gasoline and diesel engines.



For nearest LUBRIPLATE distributor see Classified Telephone Directory. Send for free "LUBRIPLATE DATA BOOK" . . . a valuable treatise on lubrication. Write LUBRIPLATE DIVISION, Fiske Brothers Refining Co., Newark 5, N. J. or Toledo 5, Ohio.





Southern Representatives: R. L. Carroll, P. O. Box 1676, Greenville, S. C.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

Effective May 29, 1960

	"Super Corduro"*	
Den Fii	Turns/in	All Packages
1100-720	2	.57
1200-730	2	.57
1530-960	2	.57
1600-960	2	.52
1650-1100	2	.50
1800-1100	2	.50
2200-1440	2	.49
2400-1440	2	.49
Terms: Net 30 Days	~	

Terms: Net 30 Days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

""CORDURA" and "SUPER CORDURA" are DuPont's registered trade-marks for its high tenacity rayon yarn.

Industrial Rayon Corporation

Effective July 29, 1960

Unbleached Bright High Tenacity Yarns

Single End	Beams and Cone			
_		Turns	_	_
Denier	Filament	per Inch	Beams	Cones
1100	480	2.0 "Z"	.56	.56
1150	480	2.0 "Z"	.56	.56
1650	720	2.0 "Z"	.49	.49
1725	720	2.0 "Z"	.49	.49
2200	1000	2.0 "Z"	.48	.48
3300	1440	2.0 "Z"	.48	.48
4400	2000	2.0 "Z"	.48	.48

Tyrex Tyrex Certified Viscose Tire Yarn

Denier	Filament	Twist	Beams	Cones
1100	720	Z	.57	.545
1650	1100	Z	.50	.475
Terms:	Net 30 days f.o.b.	point of shipment.	title to pass t	to buyer

on delivery of goods to carrier. Domestic transportation charges allowed at lowest published rate to all points in continental United States except Alaska.

PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

North American Rayon Corporation

Effective December 23, 1959

Super Super High Continuous Yarn		Cones	Beams
1100/720 1650/720	1.6Z 2.0Z	.545 .475	.545
Tire Cord Fabrics Super Super High 1100/720 1650/720	Strength Type 710		Rells .665 .585

Terms: Net 30 days, f.o.b. shipping point. Minimum freight allowed to consignee's nearest freight station East of the Mississippi River. To points West of the Mississippi River minimum freight to Memphis, Tenn. allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold f.o.b. delivery point.

Prices are subject to change without notice.

CELLULOSIC STAPLE & TOW ACETATE

Celanese Fibers Company

Effective March 2, 1959

-		14	
	ta	2	10
	u	_	ш

Stapie	
(Most Deniers Available in Bright or Dull L. Celanese Acetate Staple	uster)
3, 5.5 & 8 Denier (Regular Crimp, Type HC, Type D)	\$.36
2, 12 & 17 Denier (Regular Crimp, Type HC, Type D)	.37
35 Denier 50 Denier Type F—5.5 & 8 Denier	.38 .40 .35
Type F-12 & 17 Denier Type K-(Available under Celanese License Agree-	.36
ment) %" to %" length (All Deniers)	.39 .03 (Premium)
35 Denier Flat Filament Acetate Non-Textile Acetate Fibers	.40

Tow (Celatow)

3, 5.5 & 8 2, 12 & 17	Denier Denier	\$.37
35 Denier		.40
35 Denier	Flat Filament Acetate Tow	.42

50 Denier
Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. east of Mississippi River. Transportation prepaid to any U.S.A. destination west of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.
All previous prices withdrawn.
No transportation allowed (F.O.B. shipping point.)
Note: Prices on unlisted items can be obtained upon request.
Orders are subject to conditions of sale appearing on our acknowledgments of orders.

RAYON

American Viscose Corp. Current Prices	
Rayon Staple	Bright and Du
Regular	\$.28
"Viscose 22"	.28
1.25 Denier	.31
All Other Deniers	.28
Hi-Crimp	.28
Bleached Crimp	
1.5, 3.0 Denier	.315
Smooth	
8.0 15.0 22.0 Denier	.32
Bleached	.33
Extra Strength	
0.75 Denier	.40
1.0 Denier	.35
XL	100
1.0 Denier	.40
1.5. 3.0 Denier	.37
XLI XLI	.34
Fiber 40	
1.0 Denier	.43
1.5 Denier	.40
Colorspun Black Staple	
1.5, 3.0, 5.5 Denier	.37
15.0 Denier crimped	.40
Prices of other colors on request.	
Tow	
1.5. 3.0. 5.5 Denier	.35
9.0 Denier	.37
15.0. 20.0 Denier	.38
Color spun black tow	.42
Terms: Net 30 days.	
ACINIS, INC. OU MAJO.	

American Enka Corp.

Current Prices Effective 7/1/59

Rayon Staple Regular Crimp		
1.5 and 3 denier	Brt. \$.33	Dull \$.33
High Crimp		
4.5 denier 6.5 denier	.34 .34 .35	.34
8 denier	.35	.35

Celanese Fibers Company

Effective May 1, 1959

F	Rayon Tow	Brigh
1.5, 3, 5.5 D.P.F. Total denier 200,000	,	& Dul
8 D.P.F		

Total denier 207,000
Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. East of Mississippi River. Transportation prepaid to any U.S.A. destination West of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.
All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

Courtaulds (Alabama) Inc.

Effective April 14, 1959

Rayon Staple		
1½ and 3 denier	Bright \$.28	Dull \$.28
Available in 11/4", 1-9/16" and 2". Crimped Rayon Staple	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
3 and 5½ denier Available in 1-9/16" and 3".	\$.34	\$.34
3 denier Available in 2°.		.34

Coloray® Solution Dyed Rayon Staple Color Price pe Black	r lb.
Color Price pe	r lb.
Black 39¢	
Mocha 41¢	
Tan 41¢	
Medium Brown 41¢	
Aqua	
Rose 42¢	
Dawn Pink	
Ecru 42¢	
Dark Brown 42¢	
Gold	
Slate Grey 45¢	
Sulphur	
Nugget	
Light Blue 46¢	
Crystal Blue 47¢ Apple Green 47¢	
Sage 47¢ Peacock Blue 48¢	
Medium Blue 50¢	
Indian Yellow	
Dark Blue 51é	
Hunter Green 51¢	
Turquoise	
Malachite Green 53¢	
Red 58¢	

In addition to the above, Black is also available in:

1½ den. 1½"

3 den. 1½"

5½ den. 6"

5½ den. 6"

Terms: Net 30 days f.o.b. LeMoyne, Alabama: Minimum transportion allowed to points in U.S.A. east of Mississippi River.

Corval® Cross Linked Rayon

Effective April 14, 1959

Man-made, cross-linked, cellulosic staple, Bright and Dull, 1½, 3 and 5½ denier.....

\$.40 per lb.

.33

Topel® Cross-Linked Rayon

The Hartford Fibres Co.

Div. Bigelow-Sanford Carpet Co., Inc.

Rayon Staple

Effective November 3, 1958

Regular 15 denier Bright, 1-9/16", 2" White (Crimped)

8 denier 3" Bright 15 denier 3" Bright 15 denier 3" Dull

KOLORBON"-Solution Dyed Rayon	Staple-3"	and 6"	
		15 Denier Dull	15 Denie Bright
Cloud Grey	.46	.46	
Sandalwood	.46	.46	****
Nutria	.46	.46	****
Sea Green	.46	.46	****
Mint Green	.46	.46	7327
Champagne	.46	.46	
Midnight Black	.46		.46
Gold	.49	.49	
Turquoise	.46	.46	****
Melon	.49	.49	****
Capri Blue	.46	.46	
Charcoal Grey	.46	.46	*555
Coco	.47	.47	****
Sable	.48		.48
Tangerine	.66	****	.66
Chinese Red	.66	****	.66
Lorkson Place	.46	.46	.00
Larkspur Blue		.40	
Royal Blue	.66		.66
Lemon Peel	.55	.55	2435
Kelly Green	.52	.52	****
Bitter Green	.66	1999	.66
Brazil		.47	5454
Redwood	****		.46
Frost Green	****	.46	****
Mist Grey		.46	****
Medium Brown		.46	
Dark Brown	****	****	.48
Woodtone	****	.46	****
Antique Gold		.46	****
Light Turquoise		.46	****
Humbon Cuson		40	

"Zantrel" Polynosic Rayon

Effective August 14, 1959

Effective August 14, 1959

Man-made, polynosic, cellulosic staple.

Semi-Bright, 1 denier, 1 9/16°

1½ denier, 1¼ and 1 9/16°

47 per lb.

Terms: Net 3 denier, 19/16° and 2°

47 per lb.

Terms: Net 30 days. Prices are quoted £0.b. shipping point, lowest cost of transportation allowed, or prepaid. To points West of the Mississippi, lowest cost of transportation allowed to the Mississippi River crossing.

North American Rayon Corporation

Current Prices Effective Dec. 23, 1959

Rayon Staple No. 1 (Unshrunk)
1, 1.5 & 3 deniers
No. 2 (Preshrunk)
1, 1.5 & 3 deniers Bright .40 40

Rayon Tow High Tenacity
2200 denier, 1.0 and 1.5 D/F
4400 denier, 1.0 and 1.5 D/F
Prices are subject to change without notice.

TRIACETATE

Celanese Fibers Company

Current Prices

Prices Effective June 7, 1957 (Most Deniers Available in Bright or Dull Luster) Arnel Staple and Tow Arnel Triacetate Staple 2.5 Individual Denier 5.0 Individual Denier Bright & Dull \$.55 5.0 Individual Denier
Arnel Triacetate Tew
2.5 Individual Denier
114,000 Total Denier
5.0 Individual Denier
9.0,000 Total Denier or
180,000 Total Denier
Packaged on Ball Warps
Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. east of Mississippi River. Transportation prepaid to

any U.S.A. destination west of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

NON CELLULOSIC YARN NYLON

Allied Chemical Corporation

Caprolan®

Current	Yarn P	rices:	E	ffective	May 1, 1960	
	Fila-	Turn	1			1st Grade
Denier	ment	In.	Twist	Type**	Package	Price/Lb.
140	16	11/2	Z	В	Cones*	\$1.60
140	16	11/2	Z	В	Beams	1.65
200	16	11/2	Z	В	Cones*	1.49
200	16	11/2	Z Z Z Z Z Z Z Z Z Z Z Z	B	Beams	1.54
200	32	3/4	Z	В	Bobbins	1.49
200	32	3/4	Z	B	Beams	1.54
210	32	1	Z	HB	Bobbins	1.49
260	16	1	Z	HB	Bobbins	1.49
420	64	1/2	Z	HBT	Bobbins	1.39
420	64	1/2	Z	HBT	Beams	1.44
520	32	1	Z	B	Bobbins	1.39
520	32	1	Z	B	Beams	1.44
840	136	1/2	Z Z Z Z Z Z Z	HBT	Al. Tubes	0.94
840	136	1/2	Z	HBT	Beams	0.92
1680	272	1/2	Z	HBT	Al. Tubes	0.94
1680	272	1/2		HBT	Beams	0.92
1050	16	1/2	0	HB	Al. Tubes	1.15
2100	112	1/2	Z	HB	Al. Tubes	1.11
4200	224	0	0	HB	Paper Tubes*	1.10
2100	408	0	0	HB	Paper Tubes*	0.97
2500	408	0	0	HB	Paper Tubes*	0.97
3360	544	0	0	HB	Paper Tubes*	0.96
4200	680	0	0	HB	Paper Tubes*	0.96
5000	816	0	0	HB	Paper Tubes*	0.96
5800	952	0	0	HB	Paper Tubes*	0.96
7500	1224	0	0	HB	Paper Tubes*	0.95
10000	1632	0	0	HB	Paper Tubes*	0.95
15000	2448	0	0	HB	Paper Tubes*	0.95

Price Per Pound

American Enka Corporation

Enka Nylon Yarn Prices

Effective Ju	lly 1, 1960	Snb-			
Den./Fil.	Luster*	Twist	Package	Standard	
15/1	SD or D	0.5 Z	Tricot Spools	4.60	
15/1	SD or D	0.5 Z	Pirns-2 lb.	3.89	3.69
20/1	SD	0.5 Z	Pirns-1 lb.	4.03	3.68
20/6	D	0.5 Z	Pirns-2 lb.	2.96	2.61
20/6	D	0.5 Z	Tricot Spools	3.07	****
30/6	SD	0.5 Z	Pirns-2 lb.	2.36	2.21
40/8-13	SD	0.5 %	Pirns-2 lb.	2.01	1.91
40/8-13	SD	0.5 Z	Tricot Spools	2.11	****
40/8	SD-B de B		Pirns-2 lb.	2.10	2.00
40/13	D	0.5 Z	Pirns-2 lb.	2.06	1.96
40/13	D	0.5 Z	Tricot Spools	2.16	****
50/13	SD	0.5 Z	Pirns-2 lb.	1.91	1.76
50/13	SD-B de B	0.5 Z	Pirns-2 lb.	2.00	1.85
70/16-32	B-SD	0.5 Z	Pirns-2 lb.	1.71	1.66
70/32	SD-B de B	0.5 Z	Pirns-2 lb.	1.80	1.75
100/32	SD-B de B	0.5 Z	Pirns-2 lb.	1.74	1.69
100/32	SD	0.5 Z	Pirns-2 lb.	1.65	1.60
140/24-32-64	B-SD	0.5 Z	Pirns-2 lb.	1.60	1.55
140/32-64	SD-B de B	0.5 Z	Pirns-2 lb.	1.69	1.64
200/16-34	B	0.6 Z	Cones-4 lb.	1.49	1.44
200/16-34	B	0.6 Z	Beams	1.54	****
200/32	SD-B de B	0.5 Z	Cones-4 lb.	1.58	1.53
260/16-34	B	0.6 Z	Cones-4 lb.	1.49	1.39
400/68	B	0.6 Z	Cones-4 lb.	1.39	1.29
520/32	В	0.6 Z	Cones-4 lb.	1.39	1.29

*Luster: B—Bright; SD—Semi-Dull; D—Dull; *SD—B de B.

*Luster: B—Bright; SD—Semi-Dull; D—Dull; *SD—B de B.

Pirns invoiced at 25¢ or 45¢ each, depending on type. Deposits refunded upon return of pirns in good condition. Cones are not returnable. Spools, Beams and Racks are deposit carriers and remain the property of American Enka Corporation.

Terms: Net 30 days from date of invoice. Minimum common carrier transportation charges will be prepaid and absorbed to first destination in the continental limits of the United States excluding Alaska and Hawaii. In prepaying transportation charges, seller reserves the right to select carrier used.

All prices subject to change without notice.

*B de B—Blanc de Blancs®—White of Whites Color.

The Chemstrand Corp.

Current Prices Effective August 11, 1960 Standard Second Price/Lb. Price/Lb. \$7.16 \$6.56 3.89 3.69 3.89 3.69 4.00 2.91 2.61 3.02 2.61 Fila-Twist O O O O O O O O Z Z Z Z Z Z Denier Package Bobbins Bobbins 10 15 15 15 15 20 20 30 40 Spools Bobbins Dull Dull SD SD SD Spools Bobbins Spools Bobbins 2.21 2.21 1.91 10



Malina delivers when promised... from the country's largest selection of

RAYON • NYLON • ACETATE YARNS graded and inferiors—all put ups.

MALORA* METALLIC YARNS
supported and unsupported

THROWN YARNS
HELANCA'STRETCH YARNS
NYLON . DACRON



125 WEST 41st STREET, NEW YORK 36, LOngacre 3-4200

U.S. Cotton Research

Changes in the properties of cotton fabrics during treatments to produce wrinkle-resistance depend more on the number of crosslinks formed and less on their size and structure, according to the U. S. Department of Agriculture. Details of such research are contained in "Effects of Crosslinkage in Wrinkle-Resistant Cotton Fabrics." Copies may be obtained from the department's Southern Utilization Research and Development Division, P. O. Box 19687, New Orleans 19, La.

The division, acting for the department, has negotiated a contract with the Philadelphia Textile Institute to begin research aimed at developing cotton yarns suitable for production of cotton crepe apparel fabrics.

Whitin Income Up

Whitin Machine Works, manufacturer of textile preparatory machinery, reported a net profit of \$2,547,135 for the first half of 1960. Sales in the same period totaled \$35,000,000. It was the first time in the firm's 129-year history that midyear figures have been reported. In 1959 the company showed a profit of \$592,301 on sales of \$49,026,923. Whitin directors approved a dividend of 25 cents per share, for September 1, 1960 payment.

Since 1929, with the advent of long draft spinning, Whitin has built or modernized more than 12 million cotton spinning spindles in the United States. There is a total of 18 million cotton spindles in current operation. J. Hugh Bolton, Whitin president, said that "with the continued high level of operations in the textile industry we can look forward to continued profitable business."

Celanese Fall Promotion

Celanese Fibers Co. has launched a nationwide program to promote its contemporary fibers. The promotion was initiated recently in a private house on Manhattan's East Side. Under the theme "New Rooms for Old," many rooms were remodeled and redecorated. New fabrics containing the firm's fibers—Celaperm acetate, Celaire acetate, Fortisan rayon, Arnel triacetate, and Celanese acetate and Type F acetate —were assembled and used.

Celanese is working with a selective group of top department stores throughout the country on the "New Rooms for Old" promotion. These stores will receive a number of merchandising aids, including a "before-and-after" technique. It also is preparing a 36-page consumer how-to-decorate booklet for distribution through the stores. Packaged with the book will be a card holding fabric swatches with complete credit and merchandise information pertaining to each fabric.

Warp Knitting Simplified

To enable operators to keep an accurate record of the settings of elements on their warp knitting machines, the British Rayon Research Association has developed an instrument called the Manra Projectoset. The device consists of a tube with a lens that throws a magnified image of the knitting elements onto a screen at the other end. On the projection screen is a grid of squares so that settings can be reduced to numbers and recorded. An alternative is to trace the element positions on paper from the screen. Louis Newmark, Ltd., of Croydon, Surrey, England, has placed the instrument in commercial production.



ATLANTIC "hits the mark" for color accuracy every time!

YARN DYEING

Rayon • Nylon • Acetate • Stretch Yarns Cakes • Packages • Skeins

Custom-matched colors. Large dye batches.

Any degree of color fastness. Packaged as desired.

PROMPT DELIVERY

Atlantic
Rayon Corporation

125 WEST 41st ST., NEW YORK 36, LONGACRE 3-4200 PLANT: 86 CRARY ST., PROVIDENCE, R. I.

**		-				* **
40	13	Z	SD	Bobbins	2.01	1.91
40	13	Z	SD	Spools	2.11	
40	13	Z	SD	Warp Wind	2.01	1.91
40	13	0	SD	Draw Wind	2.01	1.91
40	13	Z	Dull	Bobbins	2.06	1.96
40	13	Z	Dull	Spools	2.16	
40	13	0	Dull	Draw Wind	2.06	1.96
50	17	Z	SD	Bobbins	1.91	1.76
50	17	0	SD	Draw Wind	1.91	1.76
50	17	7	Brt.	Warp Wind	1.91	1.76
70	20	Z	SD	Bobbins	1.71	1.66
70	34	Z	SD	Bobbins	1.71	1.66
70	34	ő	SD	Draw Wind	1.71	1.66
70			SD		1.71	1.66
70	34	Z		Warp Wind		
	34	Z	Brt.	Bobbins	1.71	1.66
70	34	0	Brt.	Draw Wind	1.71	1.66
70	34	Z	Brt.	Warp Wind	1.71	1.66
70	34	Z	HB	Bobbins	1.76	1.66
70	34	0	HB	Draw Wind	1.76	1.66
90	26	Z	SD	Bobbins	1.76	1.66
100	26	Z	SD	Bobbins	1.65	1.60
100	34	Z Z Z	SD	Bobbins	1.65	1.60
100	34	7.	HB	Bobbins	1.70	1.60
140	68	Z	SD	Bobbins	1.60	1.55
140	68	Z	Brt.	Bobbins	1.60	1.55
200	34	Z	Brt.	Bobbins	1.49	1.44
200	34	ő	Brt.	Draw Wind	-1.49	1.44
200	34	z	Brt.	Spools	1.54	7.44
200	68	Z	SD	Bobbins	1.56	1.46
210	34	2	HB	Bobbins	1.49	1.44
210		Z	HB	Draw Wind	1.49	1.44
	34	0				
210	34	Z	HB	Warp Wind	1.49	1.44
210	34	Z	HB	Spools	1.54	****
210	34	Z	HB	Beams	1.54	
210	34	Z Z Z	RHB	Bobbins	1.59	1.44
260	17	Z	HB	Bobbins	1.49	1.39
260	17	Z	HB	Beams	1.54	
420	68	Z Z Z	HB	Bobbins	1.39	1.29
520	34	Z	HB	Bobbins	1.39	1.29
720	140	Z Z Z Z Z Z Z Z Z	RHB	Tubes	1.04	1.01
720	140	7.	RHB	Beams	1.04	1.01
780	51	7.	HB	Tubes	1.39	1.29
840	140	7	HB	Tubes	.92	1.80
840	140	7	HB	Beams	.92	****
840	140	77	RHB	Tubes	.92	****
840	140	7	RHB	Beams	.92	****
1040	68	27	SD	Tubes		1 00
1680	280	Z Z Z	HB		1.15	1.05
		2		Beams	.90	1017
1680	280	2	RHB	Tubes	.90	.90
1680	280	2	RHB	Beams	.90	222
1680	280	Z	RHB	Cones	.90	.91

* Types: D—Dull; SD—Semi-dull; B—Bright; H—High tenacity. Bobbins are invoiced at 25¢ or 45¢, depending on type; tubes are invoiced at 40¢ each; spools invoiced at \$95.00, \$110.00, and \$115.00, depending on type; and beams and crates for beams are invoiced at \$220.00 and \$25.00 respectively.

Prices subject to changes without notice.

Freight prepaid within Continental United States and Puerto Rico.

E. I. du Pont de Nemours & Co.

Current Prices Nylon Yarn	Textile	Fibers De	ept.			
Deniler	Current	Prices	Nylo	n Yarn		
## Fill			14910	on rain		
Type					1-4	and
7-1			t Type	Package		
10-1	7-1					
12-1	10-1	0				
15-1	12-1	0				
15-1	15-1	0	200			
15-1	15-1	0	200/280			3.69
15-1	15-1	U	680	Beam		
14-2			680			3.69
17-2			200/280	Bobbin	4.03	
20-2				Bobbin	6.72	6.12
15-3				Bobbin	5.96	5.41
21-3 0.2Z 200 Bobbin 4.70 427 20-7 0.5Z 200 Beam 3.02 20-7 0.5Z 200 Beam 3.02 20-7 0.5Z 680 Beam 3.02 20-7 0.5Z 680 Beam 3.07 20-7 0.5Z 680 Beam 3.07 20-8 0.7Z 209 Bobbin 2.98 2.61 20-9 0.7Z 209 Bobbin 2.98 2.61 20-10 0.5Z 200 Bobbin 2.81 2.61 30-10 0.5Z 200 Bobbin 2.36 2.21 30-10 0.5Z 200 Bobbin 2.36 2.21 30-10 0.5Z 200 Bobbin 2.36 2.21 30-10 0.5Z 300 Bobbin 2.11 2.36 30-10 0.5Z 300 Bobbin 2.11 1.91 40-10 0.5Z 200/280 Tricot Beam 2.59 40-10 0.5Z 200 Bobbin 2.11 1.91 40-10 0.5Z 200 Bobbin 2.11 1.91 40-10 0.5Z 200 Bobbin 2.11 1.91 40-11 0.5Z 200 Bobbin 2.11 1.91 40-13 0.5Z 200 Bobbin 2.11 1.91 40-14 0.5Z 200 Bobbin 2.11 1.91 40-15 0.5Z 200 Bobbin 2.11 1.91 40-16 0.5Z 200 Bobbin 2.11 1.91 40-17 0.5Z 200 Bobbin 2.11 1.91 40-18 0.5Z 200 Bobbin 2.11 1.91 40-19 0.5Z 200 Bobbin 2.11 1.91 40-10 0.5Z 200 Bobbin 2.11 1.91 40-13 0.5Z 200 Bobbin 2.11 1.91 40-13 0.5Z 200 Bobbin 2.11 1.91 40-13 0.5Z 200 Bobbin 2.01 1.91 40-13 0.5Z 200 Bobbin 1.91 1.76 40-14 0.5Z 200 Bobbin 1.91 1.76 40-15 0.5Z 200 Bobbin 1.91 1.76 40-16 0.5Z 200 Bobbin 1.91 1.76 40-17 0.5Z 200 Bobbin 1.91 1.76 40-19 0.5Z 200 Bobbin 1.91 1.76						
20-7						
20-7 0.5Z 200 Beam 3.02 20-7 0.5Z 680 Bobbin 2.98 2.61 20-7 0.5Z 680 Beam 3.07 20-8 3.07 20-90 0.7Z 209 Bobbin 2.98 2.61 20-10 0.5Z 200 Bobbin 2.81 2.61 30-10 0.5Z 200 Bobbin 2.36 2.21 30-10 0.5Z 200 Bobbin 2.36 2.21 30-10 0.5Z 300 Bobbin 2.35 2.30 30-10 0.5Z 880 Bobbin 2.51 2.38 30-10 0.5Z 880 Bobbin 2.51 2.33 30-10 0.5Z 880 Bobbin 2.51 2.21 30-10 0.5Z 800 Bobbin 2.51 2.21 30-10 0.5Z 200 280 Bobbin 2.51 2.11 30-26 0.5Z 200 Bobbin 2.11 1.91 40-10 0.5Z 200 Bobbin 2.11 1.91 40-10 0.5Z 200 Bobbin 2.11 1.91 40-10 0.5Z 200 Bobbin 2.11 1.91 40-13 0.5Z 200 Bobbin 2.11 1.90 40-13 0.5Z 200 Bobbin 1.91 1.76 40-14 0.5Z 200 Bobbin 1.91 1.76 40-15 0.5Z 200 Bobbin 1.91 1.76 40-16 0.5Z 200 Bobbin 1.91 1.76 40-17 0.5Z 200 Bobbin 1.91 1.76 40-18 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70						4.27
20-7				Bobbin	2.91	2.61
20-7						
20-20				Bobbin		2.61
22-4 0.2Z 200 Bobbin 2.81 2.61 30-10 0.5Z 200 Tricot Bms 2.46 32.11 30-10 0.5Z 200 Tricot Bms 2.46 32.11 30-10 0.5Z 200 Tricot Bms 2.46 30-10 0.5Z 300 Bobbin 2.41 2.36 30-10 0.5Z 880 Bobbin 2.41 2.31 30-10 0.5Z 880 Bobbin 2.41 2.21 30-10 0.5Z 200 Bobbin 2.41 2.21 30-10 0.5Z 200 Bobbin 2.49 2.21 30-26 0.5Z 200/280 Bobbin 2.49 2.21 30-26 0.5Z 200/280 Bobbin 2.49 2.21 30-26 0.5Z 200 Bobbin 2.01 1.91 1.91 30-26 0.5Z 200 Bobbin 2.01 1.91 1.91 30-26 0.5Z 200 Bobbin 2.01 1.91 1.91 30-26 0.5Z 200 Bobbin 2.01 1.91 30-26 0.5Z 300 Bobbin 3.21 1.81 30-26 0.5Z 300 Bobbin 3.21 1.81 30-26 0.5Z 300 Bobbin 3.21 1.76 30-17 0.5Z 300 Bobbin 3.21 1.76 30-17 0.5Z 300 Bobbin 3.21 1.76 30-17 0.5Z 300 Bobbin 3.21 1.76 30-34 0.5Z 200/280/288 Bobbin 3.81 1.76 30-34 0.5Z 200/280/288 Bobbin 3.82 1.71 1.66 30-34 0.5Z 200/280/288 Bobbin 3.82 1.71 1.66 30-34 0.5Z 200/280/288 Bobbin 1.82 1.65 30-34 0.5Z 200/280/288 Bobbin 1.77 1.66 30-34 0.5Z 200/280 Bobbin 1.77 1.66 30-34 0.5						****
30-10						****
30-10						
30-10						2.21
30-10		0.52				- 22
30-10						
30-26						2.21
30-26 0.5Z 200/280 Tricot Beams 2.59 40-7 0.5Z 200 Bobbin 2.11 1.91 40-10 0.5Z 200 Bobbin 2.01 1.91 40-10 0.5Z 200 Tricot Beams 2.11 1.91 40-10 0.5Z 200 Bobbin 2.01 1.91 40-13 0.5Z 200 Bobbin 2.01 1.91 40-13 0.5Z 400 Bobbin 2.13 1.90 40-13 0.5Z 680 Tricot Bms. 2.16 40-34 0.5Z 200 Bobbin 2.13 1.90 40-34 0.5Z 200 Bobbin 2.16 50-17 0.5Z 200 Bobbins 2.11 1.76 50-17 0.5Z 200 Bobbins 2.11 1.76 50-17 0.5Z 300 Bobbin 2.01 1.76 60-20 0.5Z						
40-7 0.5Z 200 Bobbin 2.11 1.91 40-10 0.5Z 200 Tricot Beams 2.11 1.91 40-10 0.5Z 200 Tricot Beams 2.11 1.91 40-10 0.5Z 200 Tricot Beams 2.11 1.91 40-13 0.5Z 200 Bobbin 2.01 1.91 40-13 0.5Z 200 Bobbin 2.01 1.91 40-13 0.5Z 200 Bobbin 2.13 1.90 40-13 0.5Z 400 Bobbin 2.13 1.90 40-13 0.5Z 680 Bobbin 2.13 1.90 40-13 0.5Z 680 Bobbin 2.14 1.91 40-13 0.5Z 680 Bobbin 2.16 1.96 40-13 0.5Z 880 Tricot Bms. 2.11 1.76 50-17 0.5Z 200 Bobbin 2.16 1.96 50-17 0.5Z 200 Bobbin 2.16 1.76 50-17 0.5Z 200 Bobbin 2.11 1.76 50-17 0.5Z 200 Bobbin 1.91 1.76 50-17 0.5Z 200 Bobbin 1.91 1.76 60-30 0.5Z 800 Bobbin 1.85 1.76 60-30 0.5Z 800 Bobbin 1.85 1.76 60-34 0.5Z 200/280/288 Bobbin 1.85 1.76 60-34 0.5Z 200/280/288 Bobbin 1.85 1.76 60-34 0.5Z 200/280 Bobbin 1.85 1.76 60-34 0.5Z 200/280 Bobbin 1.71 1.66 60-34 0.5Z 200 Bobbin 1.71 1.66 60-34 0.5Z 288 Bobbin 1.71 1.66 60-34 0.5Z 288 Bobbin 1.71 1.66 60-34 0.5Z 288 Bobbin 1.71 1.66						2.21
40-10						
40-10 0.5Z 200 Tricot Beams 2.11 40-10 0.5Z 200 Bobbin 2.01 1.91 40-13 0.5Z 200 Bobbin 2.01 1.91 40-13 0.5Z 200 Bobbin 2.01 1.91 40-13 0.5Z 200 Bobbin 2.11 1.91 40-13 0.5Z 400 Bobbin 2.13 1.90 40-13 0.5Z 680 Tricot Bms. 2.11 1.91 40-13 0.5Z 680 Tricot Bms. 2.11 1.91 40-13 0.5Z 680 Tricot Bms. 2.11 1.91 40-13 0.5Z 800 Tricot Bms. 2.11 1.90 40-13 0.5Z 800 Tricot Bms. 2.11 1.90 50-10 0.5Z 200 Bobbin 2.11 1.76 50-17 0.5Z 200 Bobbin 2.11 1.76 50-17 0.5Z 200 Bobbin 1.91 1.76 50-17 0.5Z 800 Bobbin 1.91 1.76 60-30 0.5Z 800 Bobbin 1.91 1.76 60-20 0.5Z 800 Bobbin 1.81 1.76 60-30 0.5Z 800 Bobbin 1.81 1.76 60-30 0.5Z 800 Bobbin 1.82 1.76 60-34 0.5Z 200/280/288 Bobbin 1.82 1.65 60-34 0.5Z 200/280/280 Bobbin 1.82 1.65 60-34 0.5Z 200/280 Bobbin 1.82 1.65 60-34 0.5Z 800 Bobbin 1.71 1.66 60-34 0.5Z 200/280 Bobbin 1.71 1.66 60-34 0.5Z 280 Bobbin 1.71 1.66						
40-10						1.91
40-13		0.52				1.01
40-13 0.5Z 200 Tricot Bms. 2.11 40-13 0.5Z 400 Bobbin 2.13 40-13 0.5Z 680 Bobbin 2.06 1.96 40-13 0.5Z 680 Bobbin 2.16 40-14 0.5Z 200 Bobbin 2.11 1.81 50-10 0.5Z 200 Bobbin 2.11 1.76 50-17 0.5Z 200 Bobbin 2.11 1.76 50-17 0.5Z 200 Bobbin 2.11 1.76 50-17 0.5Z 680 Bobbin 2.11 1.76 50-17 0.5Z 680 Bobbin 1.91 1.76 60-20 0.5Z 300 Bobbin 2.01 1.76 60-20 0.5Z 300 Bobbin 1.86 1.76 60-34 0.5Z 200/280 Bobbin 1.86 1.76 70-34 0.5Z 200/280 Bobbin 1.71 1.66 70-34 0 105/205 Paper Tube 1.71 1.66 70-34 0 105/205 Paper Tube 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66						
40-13 0.5Z 400 Bobbin 2.13 1.90 40-13 0.5Z 680 Bobbin 2.06 1.96 40-13 0.5Z 680 Tricot Bms. 2.16 40-14 0.5Z 200 Bobbin 2.21 1.81 50-10 0.5Z 200 Bobbin 2.21 1.81 50-17 0.5Z 100/200 Bobbin 1.91 1.76 50-17 0.5Z 600 Tubes 1.91 1.76 50-17 0.5Z 800 Bobbin 1.91 1.76 50-17 0.5Z 800 Bobbin 1.91 1.76 60-20 0.5Z 800 Bobbin 1.82 1.65 60-34 0.5Z 200/280/288 Bobbin 1.82 1.65 70-34 0.5Z 200/280 Bobbin 1.82 1.65 70-34 0.5Z 100/200 Bobbin 1.71 1.66 70-34 0 105/205 Paper Tube 1.71 1.66 70-34 0 105/205 Paper Tube 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66						1.91
40-13 0.5Z 680 Bobbin 2.06 1.96 40-13 0.5Z 680 Tricot Bms. 2.16 40-34 0.5Z 200 Bobbin 2.11 1.81 50-10 0.5Z 200 Bobbin 2.11 1.76 50-17 0.5Z 100/200 Bobbin 1.91 1.76 50-17 0 200 Tubes 1.91 1.76 50-17 0.5Z 680 Bobbin 2.01 1.76 60-20 0.5Z 300 Bobbin 1.86 1.76 60-34 0.5Z 200/280/288 Bobbin 1.86 1.76 70-17 0.5Z 200/280 Bobbin 1.82 1.65 70-17 0.5Z 200/280 Bobbin 1.71 1.66 70-34 0 100 Tubes 1.71 1.66 70-34 0 105/205 Paper Tube 1.71 1.66 70-34 0 105/205 Paper Tube 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66						1 00
40-13						
40-34 0.5Z 200 Bobbin 2.21 1.81 1.76 1.76 1.76 1.77 0.5Z 200 Bobbin 2.11 1.76 1.76 1.77 0.5Z 100/200 Bobbin 2.11 1.76 1.77 0.5Z 100/200 Bobbin 1.91 1.76 1.77 0.5Z 1.7						
50-10					2 21	
50-17 0.5Z 100/200 Bobbin 1.91 1.76 50-17 0 200 Tubes 1.91 1.76 50-17 0.5Z 680 Bobbin 2.01 1.76 60-20 0.5Z 200/280 Bobbin 1.86 1.76 60-34 0.5Z 200/280 Bobbin 1.71 1.66 70-17 0.5Z 200/280 Bobbin 1.71 1.66 70-34 0 100 Tubes 1.71 1.66 70-34 0 105/205 Paper Tube 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66						
50-17 0 200 Tubes 1.91 1.76 50-17 0.5Z 680 Bobbin 2.01 1.76 60-20 0.5Z 300 Bobbin 1.86 1.78 60-34 0.5Z 200/280/288 Bobbin 1.82 1.65 70-17 0.5Z 200/280 Bobbin 1.71 1.66 70-34 0 100/200 Bobbin 1.71 1.66 70-34 0 105/205 Paper Tube 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66	50-17					
50-17 0.5Z 680 Bobbin 2.01 1.76 60-20 0.5Z 300 Bobbin 1.86 1.76 60-34 0.5Z 200/280/288 Bobbin 1.82 1.65 70-17 0.5Z 200/280 Bobbin 1.71 1.66 70-34 0 100 Tubes 1.71 1.66 70-34 0 105/205 Paper Tube 1.71 1.66 70-34 0 200 Tubes 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66						
60-20 0.5Z 300 Bobbin 1.86 1.76 60-34 0.5Z 200/280/288 Bobbin 1.82 1.65 70-17 0.5Z 200/280 Bobbin 1.71 1.66 70-34 0.5Z 100/200 Bobbin 1.71 1.66 70-34 0 105/205 Paper Tube 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66		0.52				
60-34 0.5Z 200/280/288 Bobbin 1.82 1.65 70-17 0.5Z 200/280 Bobbin 1.71 1.66 70-34 0.5Z 100/200 Bobbin 1.71 1.66 70-34 0 105/205 Paper Tube 1.71 1.66 70-34 0 200 Tubes 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66 70-34 0.5Z 288 Bobbin 1.71 1.66	60-20	0.52				
70-17 0.5Z 200/280 Bobbin 1.71 1.66 70-34 0 100 Tubes 1.71 1.66 70-34 0.5Z 100/200 Bobbin 1.71 1.66 70-34 0 105/205 Paper Tube 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66						
70-34 0 100 Tubes 1.71 1.66 70-34 0.5Z 100/200 Bobbin 1.71 1.66 70-34 0 105/205 Paper Tube 1.71 1.66 70-34 0 200 Tubes 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66 70-34 0.5Z 288 Bobbin 1.71 1.66	70-17			Bobbin		
70-34 0.5Z 100/200 Bobbin 1.71 1.66 70-34 0 105/205 Paper Tube 1.71 1.66 70-34 0 200 Tubes 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66 70-34 0.5Z 288 Bobbin 1.71 1.66	7U-34					
70-34 0 105/205 Paper Tube 1.71 1.66 70-34 0 200 Tubes 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66 70-34 0.5Z 288 Bobbin 1.71 1.66	70-34	0.5Z	100/200	Bobbin	1.71	1.66
70-34 0 200 Tubes 1.71 1.66 70-34 0.5Z 280 Bobbin 1.71 1.66 70-34 0.5Z 288 Bobbin 1.71 1.66			105/205		1.71	
70-34 0.5Z 280 Bobbin 1.71 1.66 70-34 0.5Z 288 Bobbin 1.71 1.66			200		1.71	
					1.71	
70-34 0.5Z 300 Bobbin 1.76 1.66						1.66
	70-34	0.5Z	300	Bobbin	1.76	1.66

70-34	0.52	680	Bobbin	1.76	1.66
70-34	0	680	Tubes	1.76	1.66
80-26	0.5Z	200	Bobbin	1.71	1.60
90-26	0.5Z	200	Bobbin	1.76	1.66
90-26	0.5Z	288	Bobbin	1.76	1.66
100-34	0.5Z	200/288	Bobbin	1.65	1.60
100-34	0.5Z	300	Bobbin	1.70	1.60
100-34	0	300	Tubes	1.70	1.60
100-34	0.5Z	680	Bobbin	1.70	1.60
100-50	0.5Z	200	Bobbin	1.71	1.60
110-50	0.5Z	200	Bobbin	1.71	1.60
140-68	0.5Z	100	Bobbins	1.60	1.55
140-68	0.52	200	Tubes	1.60	1.55
140-68	0.52	200	Bobbin	1.60	1.55
140-68	0.52	205	Tube	1.60	1.55
140-68	0.52	288	Bobbin	1.60	1.55
140-68	0.52	300	Bobbin	1.65	1.55
200-20	1Z	100	Bobbin	1.49	1.44
200-20	0	100	Tubes	1.49	1.44
200-34	0.72	100	Bobbin	1.49	1.44
200-34	0.12	105	Tube	1.49	1.44
200-34	0.7Z	680	Bobbin	1.54	1.44
200-68	0.7Z	100/200	Bobbin	1.56	1.46
	0.72	300	Tubes	1.49	1.44
210-34			Bobbin	1.49	1.44
210-34	0.7Z 0.7Z	300 300	Beam	1.54	
210-34	0.72	305	Tube	1.49	1.44
210-34			Bobbin	1.59	1.44
210-34	0.7Z 1Z	330 300	Bobbin	1.49	1.39
260-17	0.7Z	100	Bobbin	1.39	1.29
400-68	1Z	300	Bobbin	1.39	1.29
420-68				1.44	1.20
420-68	1Z	300	Beams Bobbin	1.39	1.29
520-34	1Z	300	Bobbin	1.39	1.29
630-102	0.7Z	300		1.39	1.29
780-51	1Z	300	Bobbin	1.39	1.29
800-140	0.5Z	100	Bobbin	.94	.92
840-140	0.5Z	300/700	Al. Tbs.	.92	.04
840-140	0.5Z	300/700	Beams	.94	.92
1680-280	0.5Z	300/700	Al. Tbs.	.92	
1680-280	0.5Z	300/700	Beams	.00	****
Color-Seale					
Denier &	Turns/Inc	h		Int	2nd
Filament	& Twist	Type	Package	Grade	Grade
30-10	0.5Z	140	Bobbin	\$2.71	82.56
40-13	0.5Z	140	Bobbin	2.36	2.16
70-34	0.5Z	140	Bobbin	2.06	2.01
100-34	0.5Z	140	Bobbin	2.00	1.95
200-20	0.7Z	140	Bobbin	1.84	1.79
200-34	0.72	140	Bobbin	1.84	1.79
260-20	1Z	140	Bobbin	1.84	1.79
Industrial 3	7arn			Pric	e/Lb.
840-140	0.5Z	*707	Cone		.95
5040-840	0.02	*707	Paper Tube		.99
7560-1260	0	*707	Paper Tube		.98
10080-1680	ő	•707	Paper Tube		.98
15120-2520	ő	*707	Paper Tube		.98
9 Made a		or cordage			
	0.5Z	300/700	Raschel Beams		1.00
840/140	0.52	700	Paper Tube		.97
2520-420		700	Paper Tube		.96
4200-700	0	700	Paper Tube		.96
5040-840	0				.95
7560-1260	0	700	Paper Tube		.95
10080-1680	0	700	Paper Tube Paper Tube		.95
15120-2520	.0	700	raper rube	mat Net	
rnese price	s are subje	ct to change	without notice. Ter	1110. 1466	oo may a

Types

Types

Type 100—Bright, normal tenacity.
Type 108—Bright, normal tenacity, low shrinkage (5-7%)
Type 140—Bright, color-sealed, black, normal tenacity.
Type 200—Semidull, normal tenacity, low shrinkage (5-7%)
Type 205—Semidull, normal tenacity, low shrinkage (5-7%)
Type 208—Semidull, normal tenacity, low shrinkage (5-7%)
Type 208—Semidull, normal tenacity, improved light durability and dye light fastness.
Type 280—Semidull, normal tenacity, improved light durability and dye light fastness.
Type 288—Semidull, normal tenacity, improved light durability and dye light fastness.
Type 280—Bright, high tenacity, for Texturing.
Type 300—Bright, high tenacity, low shrinkage (5-7%)
Type 300—Bright, high tenacity, more heat & light resistant.
Type 400—Semidull, high tenacity.
Type 700—Bright, high tenacity.
Type 700—Bright, high tenacity.
Type 707—Bright, high t

Racks for Tricot Beams—\$70.00 or \$130.00 each depending upon type
Raschel Beams—\$85.00 or \$100.00 each depending upon type
Racks for Raschel Beams—\$70.00 each
Tricot and Raschel Beams are billed at the above prices if not returned within 90 days from date of invoice.

Section Beams are billed after 60 days, and Industrial Beams after 30 days.

(Beams and Credits are all the second and the second action of the second action of

30 days.
(Beams and Cradles are deposit carriers and remain the property of E. I. du Pont de Nemours & Co. Toc.)

POLYESTER

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices		"Dacr	Jn''*		
Denier &	Turns/Inch	Luster	Type*	Package	Tubes 1st Gr.
30-14	0	Bright	55	Tube	\$2.71
20-20	0	Comidull	8.0	Tube	9 71

40-27	0	Semidull	56	Tube	2.31
40-27	0	Bright	55	Tube	2.31
40-27	0	Dull	57	Tube	2.36
70-34	0	Semidull	56	Tube	1.91
70-14	0	Bright	55	Tube	1.91
70-34	0	Bright	55	Tube	1.91
70-34	0	Dull	57	Tube	1.96
100-34	0	Semidull	56	Tube	1.84
140-28	0	Bright	55	Tube	1.79
150-34	0	Semidull	56	Tube	1.79
220-50	0	Bright	51	Tube	1.76
250-50	0	Bright	55	Tube	1.76
1100-250	0	Bright	51	Cone	1.50
1100-250	0	Bright	52	Cone	1.50
1100-250	Ro2	Bright	52	Cone	1.50
1100-250	Ro2	Bright	52	Beam	1.52
	4 (7)43 -4				

Terms: Net 30 days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the Continental limits of the U. S., excluding Alaska.

Yarn Types

Type:	51-Bright, high tenacity.
	52-Bright, high tenacity.
	55-Bright, normal tenacity.
	56-Semidull, normal tenacity.
Type	57-Dull, normal tenacity.

Type 57—Dull, normal tenacity.

Tubes are invoiced as a separate item at \$.70 each.

Industrial beams and cradies are billed if not returned within 30 days from date of invoice. They are then billed as separate items at \$220.00 per beam and \$115.00 per cradie and are returnable for credit.

"'DACRON" is DuPont's registered trade-mark for its polyester

SARAN

The National Plastics Products Company— **Fibers Division** Odenton, Maryland

	t Prices	FILAMENT			
F.O.E	r filter f	on, Maryland.	Natural 1.75 industrial purposes	only.	Celera 1.80

NON CELLULOSIC STAPLE & TOW

American Cyanamid Co.

Linera				
Effective	Date:	November	24,	1959

Cyanamid Acrylic Staple	1st Grade Price
2.0 Denier Bright and Semi-Dull 3.0 Denier Bright and Semi-Dull	(per pound) \$1.28 1.18
5.0 Denier Bright and Semi-Dull 15.0 Denier Bright, Semi-Dull and Dull	1.18
Staple Lengths: 1½°, 2° 2½°, 3°, 3½°, 4°, 4½°. Information provided on request for Deniers, Lengths	and Lusters

Information provided on request for Deniers, Lengths and Lusters not listed above.

Prices are subject to change without notice.

Terms: Net 30 Days.

F.O.B. Shipping Point—Minimum transportation allowed (Seller's route and method) within the continental limits of the United States excluding Alaska. If Buyer requests and Seller agrees to a route or method involving higher than minimum rate, Buyer shall pay the excess transportation cost.

Note: CRESLAN© is Cyanamid's registered trademark for certain of its acrylic fibers. Use of this trademark is authorized only on properly constructed fabrics, after they have been tested and approved by Cyanamid.

ine Chems	Irana	Corp.
Current Prices		"Acrilan"*
		-

Effective July 1, 1960 1.0 denier Semi-Dull and Bright staple	Aerilan	Acrilan 16 \$1.28
2.0 denier Semi-Dull and Bright staple & tow	\$1.18	1.18
2.5 denier Hi-Bulk Bright and Semi- dull staple and tow	1.18	1.18
3.0 denier Bright & Semi-dull staple & tow	1.18	1.18
5.0 denier Bright & Semi-dull staple & tow	1.18	1.18
8.0 denier Bright & Semi-dull staple	1.18	1.18
& tow 15.0 denier Bright & Semi-dull staple	.93	.97
& tow 2.5 denier Bright & Semi-dull staple —dope dyed (black)		1.48
3.0 denier Bright & Semi-dull staple & tow depe dyed (black) Terms: Net 30 days. Freight prepaid w	vithin Contine	1.48 ntal U. S. &
Puerto Rico. "Acrilan" is Chemstrand's registered		

The Dow Chemical Company

Textile Fibers Department	Current	Prices	
"Zefran"*	Acrylic	Staple	
2.0 denier Semidull & Bright-S			\$1.28
3.0 denier Semidull & Bright S	taple only		1.28

6.0 denier Semidull & Bright-Staple only	1.18
100% Blends of ZEFRAN acrylic fiber (For the Woolen System)	* **
Type W-2 (average denier of about 2.5)	\$.99
Type W-4 (average denier of about 4.5)	.94
Terms: Net 30 days.	
Transportation Terms: F.O.B. shipping point-Freight prepaid	our
route within the continental limits of the U.S., excluding Alaska	A.
 Registered trademark of The Dow Chemical Co. 	

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

"Orlon"*	Acrylic	Stople	& Tow

Urion Acr	ylic Staple & Tow		
		Tow	1st
Type 42	Staple Length	Blds.	Grade
1.0 Denier Semidull	14, 14, 2, 24, 3	420M	\$1.28
2.0 Denier Semidull & Bright	14, 14, 2, 24, 3, 44	470M	1.28
3.0 Denier Semidull & Bright	14, 14, 2, 24, 3, 44	470M	1.28
3.0 Denier Color-sealed Black	14, 14, 2, 24, 3, 44	470M	1.63
6.0 Denier Semidull & Bright	114, 2, 214, 3, 414	470M	1.18
6.0 Denier Color-sealed Black	114. 2. 214. 3. 414	470M	1.55
4.5 Denier Semidull	114. 2. 214. 3. 414	470M	1.18
10.0 Denier Semidull & Bright	1%, 2, 2%, 3, 4%	470M	1.18
10.0 Denier Color-sealed Black	11/2, 2, 21/2, 3, 41/2	470M	1.55
High Shrinkage Staple price as	Regular Staple		
Type 25		1	\$1.08
This product is designed for f	otton /Pauon Sustem Sn	inning	and is

This product is designed for Cotton/Rayon Syste 2.5 denier, 1½" semidull regular shrinkage staple. Type 39 5.94
This product is designed for woolen system spinning and is a blend of deniers (average 4.2) with a variable cut length.

Type 39A

This product is designed for woolen system spinning and is a blend of predominately fine deniers (average 2.4) with a variable cut length.

Type 39B

Type 39B

This product is designed for woolen sustem spinning and is a blend of predominately heavy deniers (average 6.5) with a variable cut length.
"ORLON SAYELLE"**

"ORLON SAYELLE""* \$1.53
3.0 denier semidull variable 2½" to 5" average 3¾" staple \$1.53
6.0 denier semidull variable 2½" to 5" average 3¾" staple 1.50
F.O.B. Shipping Point—Freight prepaid our route within the continental limits of the United States, excluding Alaska.

"ORLON" is Dupont's Registered Trade-mark of its Acrylic Fiber.
"ORLON SAYELLE"* is Dupont's Trade-mark for its bi-component

Acrylic fiber.

MODACRYLIC

Eastman Chemical Products, Inc. Tennessee Eastman Co.

Current

	"Verel"*	Staple	and	Tow	
Deniers				Dull and \$1.02 per	
	d 12			.92	pound
	20			.93	

Prices are subject to change without notice.
Terms: Net 30 days. Payment—U. S. A. dollars.
Transportation charges prepaid or allowed to destination in continental United States, except Alaska. Seller reserves right to select route and method of shipment. If Buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

""Verel" is a trade-mark of the Eastman Kodak Co.

Union Carbide Chemicals Co.

Div. Union Carbide Corp

Effective May 1, 1959 Textile Fibers Dept.

Dynel Staple & Tow

Natural Dynel			
2 Deniers, Staple and Tow	1.20 1	per lb.	
3. 6. and 12 Denier, Staple and Tow	1.10	per lb.	
24 Denier, Staple and Tow		per lb.	
Dynel Spun with Light Colors:			
Blond, Pewter, and Gray			
3 and 6 Denier, Staple and Tow	1.30 1	per lb.	
Dynel Spun with Dark Colors:			
Black, Charcoal, Brown, Caramel, Green, and Blue			
3 and 6 Denier, Staple and Tow	1.40 3	per lb.	
Dynel Type 80 12 Denier	.92 [per lb.	
Dynel Type 63 High Shrinkage (3 Denier only)Add	\$.05 T	per lb.	
to a	bove	prices	

Prices are quoted F.O.B. shipping point, freight prepaid our route, within continental limits United States, excluding Alaska and Hawaii.

NYLON

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

Nylon Staple and Tow

		INVIORI STU	pie unu io	VV		
		, , , , , , , , , , , , , , , , , , , ,		2	and Grade	e
Denier	Туре	Staple Lengths	Tow Bundle None made	Price/Lb. \$1.33	Staple Only	
1.5	200 201	1% -4%	None made	1.35	1.20	
2.3	420	11/2" only	None made	1.28	1.13	
3.0	100/200	11/4"-41/4"	430M	1.28 1.30	1.13	
3.0 6.0	101/201	1%"-4%"	455M 330M	1.28	1.13	
6.0	101	11/2"-61/2"	345M	1.30	1.15	
15.0	100	114"-614"	425M	1.08	****	
15.0	101	1%"6%"	None made	1.10	****	

ALL TYPES of GUIDES

IN STOCK



We carry in stock, for immediate delivery, over one thousand different styles of thread guides, for all types of yarns. For knitting, braiding, spinning, weaving, winding, throwing, warping, narrow fabrics, creels and stop motion machinery.

A few styles are shown here.
We are sure we have items that
you need. Will you please check.
Send your samples or prints. Overnight delivery can be made. If
you have a wear problem. Call
us. We will try to help.





0

NO. 124

NO. 93 1/4 x .169

We welcome an opportunity to serve you. Write today for samples, quotations and catalog.

MADDEN'S TEXTILE CERAMICS, INC.

P. O. BOX 85 ROCKVILLE CENTRE, L. I. N. Y.

ROCKVILLE CENTRE 4-0336 Formerly of PAGE MADDEN CO.



NOW! TURBO REDUCES TOW CAN PRICES

Increasing demand for Turbo Tow Cans has meant manufacturing economies, enabling Turbo to reduce prices up to 15%. Strong, light aluminum throughout. All welded construction . . . no rivets or burrs to snag fibers. Open-down vents for quick penetration. Single can: 8½" by 12½" base, 35" high. Double can: 12¾" by 27" base, 30" high. Designed and built by Turbo, the world's largest producer of tow cans. For new low prices, write today or call Ulysses 5-5131.

TURBO

TURBO MACHINE COMPANY

New Fabrics

New Caprolan Carpets

A new Textured Caprolan nylon carpet, "Gold Coast," is being offered by Croft Carpet Mills, Inc., as a moderately priced interpretation of a hand-crafted texture in which each tuft is multi-colored. It is tufted in a high-low loop pile. Allied Chemical Corp.'s Textured Caprolan is also making its first appearance in area rugs of the new "Star Flight" line, manufactured by Carter Brothers. Variations of pile height, different degrees of texture and color combinations are said to give the Star Flight area rugs a custom look. For further information write the editors.

Fiberglas Vertical Blinds

Forty miles (70,000 yards) of vinyl-coated Fiberglas vertical blinds will be installed in the 64-story Chase Manhattan Bank Building now going up in lower New York City. The blinds consist of a series of vertically mounted, 7-inch louvers, which may be traversed and rotated in unison for light control. The vinyl coating is white for high solar heat reflectivity. The glass cloth is said to provide improvement over cotton, notable in its greater breaking strength. The tear strength also is substantially higher. For further information write the editors.

Creslan Fabric Robes

J. M. Wise Co., a leading manufacturer of men's robes, is reported to be the first in its field to use the new 50-50 blend of Creslan acrylic fiber and solution-dyed rayon. The fabric is made by Earl-Loom. It is described as an easy-care fabric with a soft hand plus color depth and freedom from wrinkles. American Cyanamid Co., maker of Creslan, will promote the robes with an advertising campaign in Life and the New Yorker magazines. The robes will retail for about \$18 each. For further information write the editors.

New Textured Yarn

Nathan Schwartz & Sons, Inc., has developed a new textured nylon yarn especially for the bulky knit trade. The new yarn is applicable to both circular and full-fashioned knitting, and can be knit on multi-feed machines without barré effect. Finished garments made from the new yarn are said to be non-allergenic, non-pilling and non-fuzzing. The firm's process permits texturing of yarns of 200 denier and higher, thus producing finished heavy textured yarns with a minimum number of plys. For further information write the editors.

LOW COST EASY to INSTALL PACKAGED HUMIDIFIER

Model 1H27-B Self-contained Humidifier. Ideal for spot humidification, as a booster to your present system, or for multiple unit installations. Motor driven for long, trouble-free operation, comes complete with all equipment, and answers the need for inexpensive, efficient humidifica-



STANDARD ENGINEERING WORKS

Write for prices and bulletin

15.0	600	1%"-6%"	425M	1.10	981
15.0 Staple	601 lengths	1%"-6%"	None made to the range	shown oppos	ite ench
			lengths within		

1%, 1%, 2, 2%, 3, 4% and 6%

Types

Type 100 Bright, normal tenacity, not heatset.
Type 101 Bright, normal tenacity, heatset.
Type 200 Semiduli, normal tenacity, heatset.
Type 201 Semiduli, normal tenacity, heatset.
Type 201 Semiduli, normal tenacity, heatset
Type 420 Semiduli, high tenacity, high modulus, no crimp.
Type 600 Dull normal tenacity, not heatset.
Type 601 Dull normal tenacity, heatset.
These prices are subject to changes without notice.
Terms—Net 30 Days.
Freight Terms—Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

Industrial Rayon Corp.

Effective August 18, 1958

Nylon Staple

1.5 denier	\$1.33 per lb.
2, 3 and 6 denier	1.28 per lb.
8 denier 15 and 22 denier	1.15 per lb.
Bright, semi-dull, and full-dull. Required lengths.	1.08 per lb.

Terms: Net 30 days f.o.b. point of shipment, title to pass to buyer on delivery of goods to carrier. Domestic transportation charges allowed at lowest published rate to all points in continental United States except Alaska.

PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

NYTRIL

Celanese Fibers Company

DARVAN

Effective Nov. 21, 1958

	Price Per Pe	rund
Type 3, 4½ and 6 1½, 2 Denier	Not Crimp Set \$1.45 \$1.50	\$1.50 \$1.55
	100 Lb. and 500 Lb. Bales, Net	-

Staple lengths 1½, 2, 3, 4½ Tow—90.000 Total Denier Bright, Semi-dull, Dull

Bright, Semi-dull, Dull
(Deniers and lengths of staple not listed above are available upon special request.)
Terms: Net 30 Days.
F.O.B. Shipping Point (Avon Lake, Ohio) Minimum freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if overland, or port of exit of purchaser's choice cast of the Mississippi River.

OLEFIN

Industrial Rayon Corporation

Olefin Staple and Tow Prolene Staple Bright Luster

2, 3, 6, and 15 Denier, crimped Available in 1½" to 6" lengths

Prolene Tow Bright Luster

2, 3, 6, and 15 Denier, crimped \$.90
Terms: Net 30 days f.o.b. point of shipment, title to pass to buyer
on delivery of goods to carrier. Domestic transportation charges allowed at lowest published rate to all points in continental United States except Alaska.
PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

POLYESTER Beaunit Mills Inc.

Vycron Polyester

Current Prices

	Denier	Price Per Lb
	1.5	\$1.26
G. 1 G.	3.0	1.36
Staple Cuts are 1	%", 1%", 2", 3" and 4"	
Tow for Converters	1.5	1.26
(Tow Bundle 200,000 Denier) Spun Dyed Black 10¢ per lb. extra.	3.0	1.36

Spun Dyed Black 10¢ per lb. extra.

Terms: Net 30 days, F.O.B. shipping point. Minimum freight allowed to consignee's nearest freight station east of the Mississippi River. To points west of the Mississippi River minimum freight to Memphis, Tenn. allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices subject to change without further notice.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. **Current Prices**

	"Dad	cron"**	Staple and	Tow	
Denier	Luster	Type*	Length	Tow Bundle	1st Gr.
1.5	Semidull	54	114"-116"	None made	1.26
2.25	Semidull	64	134"-436"	450M	1.41

3.0	Semidull	54	14"-4%"	450M	1.36
3.0	Semidull	61	114"-414"	None made	1.36
3.0	Semidull	64	114"-414"	450M	1.41
4.5	Semiduil	54	11/4"-41/4"	450M	1.31
4.5	Semidull	64	114"-416"	450M	1.36
6.0	Semidull	54	144"-414"	450M	1.31
6.0	Semidull	61	114"-415"	None made	1.31
6.0	Semidull	64	114"-412"	450M	1.36

Type: Type 54—Semidull, Normal Tenacity. Type 61—Industrial Staple having 45% Shrinkage. Not intended for Dyeable Uses. Type 64—More Pill Resistant Staple, with Greater Dyeing Versatility.

"Dacron" Polyester Color-Sealed Black Staple and Tow

2.25 Color Sealed Black 64 1½".-4½" 450M 1.76
3.0 Color Sealed Black 64 1½".-4½" 450M 1.76
F. O. B. Shipping Point—Freight prepaid our route within the continental limits of the United States, excluding Alaska.

** Dupont's Registered Trade-mark for its Polyester Fiber.

Eastman Chemical Products, Inc.

Tennessee Eastman Co. Current

"Kodel"*

	Semi-Dull		St	aple and Tow	
Deniers	Staple	Tow	Black	Brown	Blue
1.5	\$1.33	\$1.41	4564	****	2.011
2.25	1.41	1.41	\$1.76		
3.0	1.41	1.41	1.76	\$1.86	\$1.96
4.5	1.36	1.36	****	****	****

Terms: Net 30 days. Payment—U. S. A. dollars.
Transportation charges prepaid or allowed to destination in continental United States, except Alaska. Seller reserves right to select route and method of shipment. If Buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

* "Kodel" is a trade-mark of the Eastman Kodak Company.

Celanese Fibers Company

Effective June 10, 1960 **Current Prices**

Fortrel Polyester Staple and Tow

Denier	Luster	Price
1.5	Semi-dull	\$1.26
3	Semi-dull	1.36
4.5	Semi-dull	1.31
6	Semi-dull	1.31

Staple lengths 1½", 2" and 3".
All staple packaged in 500 pound bales.

	Tow	
Denier	Luster	Price
1.5	Semi-dull	\$1.36
3	Semi-dull	1.36
4.5	Semi-dull	1.31
6	Semi-dull	1.31

Total denier of all tow is 225,000.

All tow packaged in 300 to 400 pound cartons.

TERMS: Net 30 days. F.O.B. destination—Freight prepaid our route within the continental limits of the United States, excluding Alaska. Prices subject to change without notice.

VINYON

\$.90

American Viscose Corp. Effective October 1, 1956

Avisco Vinvon Staple

1.5 denier 11/2"	Unopened	\$.90	per lb.
3.0 denier 1/2"		.80	per lb.
3.0 denier 11/4"	Unopened		per lb.
3.0 denier 11/4"	Opened		per lb.
3.0 denier 2"	Opened		per lb.
5.5 denier 1"	Opened		per lb.
5.5 denier 11/2"	Unopened	.80	per lb.

Terms: Net 30 days.

SARAN

The National Plastics Products Company-**Fibers Division** Odenton, Maryland

Current Prices:	Saran Staple		
Type 2Y—Upholstery	Denier	Natural \$0.70	Colors #0.75
2Y-Upholstery	16	.74	.79
3Q—Industrial Fabrics 1C—Carpets	22 22	.68 .68	.72 .72
1M—Mops	22	.68	.72

In any staple length 1¼ to 6". Also 45 denier, 7" cut. F.O.B. Odenton, Maryland. Terms: net 30 days.

GLASS YARN

Owens Corning Fiberglas Corp.

	A	Decorative	Continuous	Yarn				
1/0	1.0	TPI			53¢	per	lb.	

DE 150 1/0 1.0 TPI F.O.B. Freight Allowed.

News (Continued from Page 77)

Warner Eustis, vice president of research for the Kendall Co., has retired after 31 years at the head of the firm's research operations.

John B. Russell, Jr., James L. Eskridge, and James D. Barbee have been elected vice presidents, and Harry L. Dalton a director, of Burlington Industries, Inc.

Milton Charatz has been appointed technical demonstrator for the mid-Atlantic territory of Putnam Chemical Corp.

Allan F. Ballantyne has been named managing director of Crompton & Knowles Canada Ltd., Montreal, Quebec.

Frank P. Fields has been appointed to the sales staff of the Charlotte, N.C., office of Arnold, Hoffman & Co., Inc.,

Albert S. Wilson, Jr., has been elected president and a director of Aberfoyle Manufacturing Co. He replaces Joseph P. Holt, who has resigned after 48 years with the company.

Roy W. Bennett has been appointed manager of the Divisional Sales Office of Scott & Williams, Inc., in Reading, Pa.

Robert W. Armstrong has been named sales coordinator of Hartford Fibres Co. He replaces Bruce Kenworthy, who has resigned.

Charles H. Crumpton, W. Wayne West and Charles M. Dunn have joined the sales staff of Holt Associates, Inc., successor company to R. E. L. Holt, Jr., and Associates.

A. T. Hanes, vice president in charge of marketing dyestuffs for Sandoz, Inc., has retired after association with the firm since 1928.

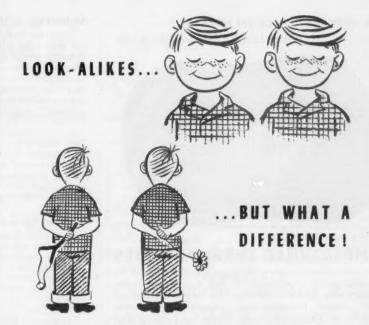
Kenneth Burdon has been named southern New England district sales manager for New York & New Jersey Lubricant Co., succeeding Harry H. Beaman, who retired after 32 years with the company. Robert N. Ecsedy has joined the company as a sales representative in Connecticut and southeastern New York.

Deaths

Basil D. Browder, co-executor of the American National Bank and Trust Co. of Danville, Va., died on April 1, 1960.

Harold M. Chase, 88, director of research for Dan River Mills, Inc. until his retirement in January, 1949, died on July 6.

Roy G. Hemminghaus, 52, vice president, new product planning, Chemstrand Corp., died on Aug. 25 after a brief illness.

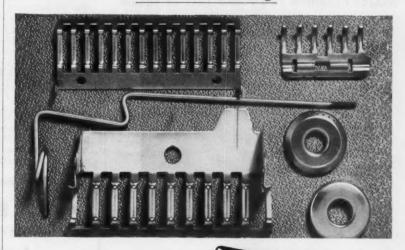


The fact that all Hard Chromium Plating looks the same may mislead you.

During 26 years of successful experience, we have proven many times to our customers (Some of whom have been with us for 20 years or more) that our fast, efficient service and "know how" mean "dollars in their pockets."

Why go through the trial and error method when we are experts in our chosen field . . . top quality

Hard Chromium Plating.



The leading name in textile HARD CHROMIUM PLATING, both satin and polished finish.



WALTON and LONSBURY

79 NORTH AVENUE

ATTLEBORO, MASSACHUSETTS

Experience is what you get while you're looking for something else



We who manufacture

LAMBERTVILLE THREAD GUIDES

have accumulated a vast store of experience in ceramic guide manufacture. We believe it helps explain why Lambertville guides are unsurpassed in smoothness, hardness, and uniformity. Available in white or 'Durablu' finish. Write for catalog and samples.

ambertville Ceramic

LAMBERTVILLE, NEW JERSEY
LAMBERTVILLE: YOUR GUIDE TO BETTER OPERATIONS!

NO YARN TRAPPING WITH BRAZED ALUMINUM TWO POUND TAKE-UP BOBBIN



New aluminum take-up bobbin with barrel and heads brazed together into a single unit prevents yarn trapping. Exceptional strength at price no higher than ordinary bobbins.

Write us today for full details.



ALLENTOWN BOBBIN WORKS, INC.

ALLENTOWN

PENNSYLVANIA

Mylar Film in Hat Bands

Military Post Suppliers is manufacturing a field hat that hold its crisp shape after repeated washings through use of a die-cut side band of 10-mil Du Pont "Mylar" polyester film in place of starched fiber mesh. The Mylar does not shrink, is unaffected by hot water and soap, and can take the repeated flexing and crushing punishment of infantry field service, Du Pont reported. Previously, none of the standard hat-stiffening fabrics used by Military Post Suppliers could stand repeated washings without shrinking and softening. The hats are sold exclusively through Army Post Exchanges. While not part of the official army uniform, they are made of Army Quartermaster specification materials, including 9-ounce combed cotton sateen, vat dyed and pre-shrunk. For further information write the editors.

Durable Rainwear Finish

Rainwear fabrics offering durable water repellency, even after repeated washings and dry cleanings, will soon be available from Cone Mills, Inc., Dan River Mills Inc., and Pepperell Manufacturing Co. Minnesota Mining and Manufacturing Co., marker of Scotchgard stain repeller used on the fabric, reports its application does not change, the hand, texture or color of the fabric.

The finish will be applied to all fabrics constructed or designed for the rainwear trade, including cotton and Dacron-cotton blends. A fluorochemical used in the treatment impregnates the fibers and prevents them from absorbing water. To insure uniform quality in the application of the Scotchgard treatment, Minnesota Mining has instituted a quality control program for firms authorized to apply the textile chemical. For further information write the editors.

New Plastic Lamination

Lamart Corp. is now producing metallized Mylar fabric laminate with a "two-way" stretch which makes it suitable for bookbinding applications. The special laminate permits bookbinders to make corners with ease. It is available in a variety of colors and patterns in die-cut, pre-cut sheets or in rolls up to 54-inches wide. For further information write the editors.

Acrilan Electric Blanket

Northern Electric Co. has introduced an electric blanket made of 100% Acrilan. The "Elegance" line of blankets carries a 5-year guarantee—two years on a full replacement basis and three years for full repair. A double bed, single control model will retail for about \$39.95. Northern said it is using 100% Acrilan because of its extra softness and depth of nap. For further information write the editors.

ALLEN BEAM COMPANY

NEW BEDFORD, MASS.

Beams for all makes of High Speed Warpers

LOOM BEAMS

Adjustable Loom Beam Heads
"Good Warps are made on Good Beams"

Business Service Section

Exclusively for Business, Laboratory and Mill Services; Positions and Men Wanted; Business Opportunities; Mill Properties Wanted or For Sale; Reconditioned Ma-chinery and Equipment, etc.

CLASSIFIED RATES

EMPLOYMENT SERVICE Over 55 Years In Business THE POSITION YOU WANT may be available right now. The demand for executives is increasing. Solaries are attractive. You are invited to send us your resume in confidence. THE EXECUTIVE YOU NEED may be listed with us. Employers find our Service helpful and time saving. Your phone call, wire or letter will bring prompt attention

CHARLES P. RAYMOND SERVICE, INC.

Phone Liberty 2-6547

294 Washington St.

Boston 8. Mass.

REPRESENTATIVE WANTED

REPRESENTATIVE WANTED in your territory. From your desk you can earn a substantial addition to your income. Only written contacts with your clients! Write for particulars and further details to VKK-Office, Vienna 66, P.O.B. 128, Austria.

Here you can SELL - HIRE - BUY

DACRON, NYLON, RAYON & ACETATE BOUGHT AND SOLD YARNS

Empire State Bldg.

BERTNER YARN COMPANY

New York City

Oxford 5-1170

from chemical raw materials to the manufacture, marketing, and renovation of apparel . . . a master key to the world of man-made fibers and textiles.



Man-Made Textile Encyclopedia, edited by J. J. PRESS, Chief, Textile Branch, U. S. Navy Clothing and Textile Research Laboratory

Just published, the Man-Made Textile Encyclopedia has been designed for everyone concerned with fibers and Textiles at every stage—from the polymer scientist to the neighborhood laundry . . . from fiber producer to fabric and clothing designers . . . from mill to dyehouse converter to department store.

The editorial range—covered in 944 abundantly illustrated pages, each 81/4 x 111/4—serves every interest from chemical raw materials to manufacture of fibers, staple, tow and yarn; from weaving and knitting to the design, testing and distribution of apparel and all other end-use products, consumer, military and industrial.

The technical level is attested by the positions the Encyclopedia's 149 contributors hold in education, research, production, administration and marketing within nearly every major company, association and institution concerned with man-made fibers and textiles.

Just published: 944 pages, 81/4 x 111/4 561 illustrations, 370 tables

\$27.50

ORDER TODAY

To MODERN TEXTILES MAGAZINE Department (T.E.)

303 Fifth Avenue, New York 16, N. Y.

Please send ——— copy(s) of the Man-Made Textile Encyclopedia at \$27.50 each plus postage. NYC sales tax where applicable.

My check —, Money Order —, for \$ is enclosed.

Address

Calendar of Co

Calendar or
Oct. 3-7-Southern Textile Exposition. Textile Hall, Greenville, S. C.
Oct. 5—AATT monthly meeting. Delfa Robbia Room, Hotel Vanderbilt, New York, N. Y.
Oct. 6-8-AATCC national convention. Sheraton Hotel, Philadelphia, Pa.
Oct. 7—Southern Textile Overseers Association annual meeting. Hotel Green- ville, Greenville, S. C.
Oct. 12.—Tufted Textile Manufacturers Association annual workshop. Hotel Patten, Chattanooga, Tenn.
Oct. 13-14—National Industrial Engineering and Management Clinic, spon- sored by the Industrial Management Society. Conrad Hilton Hotel, Chicago, III.
Oct. 18-19—Institute of Textile Technology Technical Advisory Committee and Board of Trustees meeting. Charlottesville, Va.
Oct. 19—Textile Veterans Association 14th annual achievement award dinner. Commodore Hotel, New York, N. Y.
Oct. 19-22—Carded Yarn Association annual meeting. Grove Park Inn, Asheville, N. C.
Oct. 21-AATCC Northern New England Section meeting. Dedham, Mass:
Oct. 22—Textile Operating Executives of Georgia slashing and weaving dis- cussion. Georgia Tech. Atlanta. Ga.
Oct. 22—Alabama Textile Education Foundation meeting. Auburn University, Auburn, Ala.
Oct. 27-28—The Fiber Society fall meeting. Washington Hotel, Washington, D. C.
Nov. 2—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
Nov. 10-Thread Institute annual meeting. Hotel Commodore, New York, N.Y.

C	mi	ng Events
	Nov.	12—Textile Education Foundation, Inc. Georgia Tech, Atlanta, Ga. 12—Alabama Textile Operating Executives carding and spinning discussion. Georgia Tech., Atlanta, Ga.
	Nov.	28-Dec. 2—Power & Mechanical Engineering Exhibition. Coliseum, New York, N. Y.
	Dec.	7—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
	1961	
		16-19—Instrument Society of America conference and exhibit. Sheraton- Jefferson Hotel and Kiel Auditorium, St. Louis, Mo.
		7-9—2nd Canadian Textile Conference sponsored by Textile Technical Federation of Canada and Primary Textiles Institute. Queen Elizabeth Hotel, Montreal, Que.
	Mar.	23-25—ACMI annual meeting. Fontainebleau Hotel, Miami Beach, Fla.
	-	12-14—Alabama Textile Manufacturers Association annual meeting. Buena Vista Hotel, Biloxi, Miss.
	Apr.	16-18—Narrow Fabrics Institute spring meeting. The Tides Inn, Irvington, Va.
	Apr.	24-25—Underwear Institute annual meeting. Hotel Dennis, Atlantic City, N. J.
	Apr.	24-28-Knitting Arts Exhibition. Auditorium, Atlantic City, N. J.
	Apr.	26-29—Georgia Textile Manufacturers Association annual meeting. Hollywood Beach Hotel, Hollywood, Fla.
	Jun.	5-9—Society of the Plastics Industry annual national conference and exposition. Commodore Hotel and Coliseum, New York, N. Y.

	York, N. Y				,		,	
OV.		onnual	meeting.	Hotel	Commodore,	New	York,	N.Y.

Index to Advertisers

index to Advertisers	
(See previous or subsequent issu	es)
Allen Beam Co	86
Allen Warner Co	69
Allen Beam Co. Allen Warper Co. Allentown Bobbin Works, Inc.	86
Allied Chemical Corn	
National Aniline Div	, 29
Div. Althouse Chemical Co.	
American Bemberg	
American Bemberg American Cyanamid Co.	39
American Enka Corp.	8
American Cyanamid Co. American Enka Corp. IV Co American Tex. Mach-Exhibition American Viscose Corp.	ver
American Tex. Macn-Exhibition	
Apex Chemical Co., Inc.	
Arkansas Co., Inc.	36
Arnold Hoffman & Co.	
Atlantic Rayon Co.	80
Arkansas Co., Inc. Arnold Hoffman & Co. Atlantic Rayon Co. Atlas Electric Devices Co.	70
Barber-Colman Co.	40
Beaunit Mills, Inc.	49
Belle Chemical Co.	01
Borregaard Co., Inc., The	
Belle Chemical Co. Borregaard Co., Inc., The Burlap Tubing Mfg. Co.	
Butterworth & Sons Co., H. W.	35
Celanese Corp. of America Fibers Div.	5
Fibers Div. Ciba Company, Inc. Chandler Machine Co. Chandler Sales & Service Co.	
Chandler Sales & Service Co	
Chemstrand Corp.	14
Clements Mfg Co	
Cocker Machine & Foundry Co.	54
Clements Mfg. Co. Cocker Machine & Foundry Co. Collins Supply and Equipment Co.	
Corn Products Sales Co	
Croon & Lucke CMPH	
Crompton & Knowles Corn	
Courtaulds (Alabama), Inc. Croon & Lucke GMBH Crompton & Knowles Corp. Curlator Corp.	25
Dary Ring Traveler Co. Davidson Publishing Co. Dayco Textile Products Co. Dobson & Barlow, Ltd.	65
Davidson Fublishing Co.	
Dobson & Barlow, Ltd.	32
Dommerich & Co., Inc., L. F. Dow Chemical Co., The Draper Corporation 10, Duplan Corp.	0.0
Dow Chemical Co., The	
Draper Corporation	11
Du Pont de Nemours & Co., E. I.	
Dyestuffs Department	
Dyestuffs Department	17
Eastman Chem. Pro. Inc.	43
Englehard Industries, Inc. Baker Platinum Div.	
Danci Flatinum Div.	

Fabrionics Corp. Fancourt Co., W. F. Fiske Bros. Refining Co. Lubriplate Division Fletcher Industries Forbes Marketing Research, Inc. Foster Machine Co. Electronic Sales Div. Franklin Process Co.	47 23
Garland Mfg. Company Gaston County Dyeing Machine Co. Geigy Chemical Corp.	72
Gessner Co., David Globe Dye Works Co. Goodyear Tire & Rubber Co. Chemical Div.	
Chemical Div. Guider Specialty Co., The Gulf States Utilities Co.	7
Hant Braduata Com	41
Heany Industrial Coramic Co	77
Hart Products Corp. Heany Industrial Ceramic Co. Heresite & Chemical Co.	24
Herr Mfg. Co., Inc.	
Hoffner Rayon Co.	
Herr Mfg. Co., Inc. Hoffner Rayon Co. Howard Bros.	52
Industrial Rayon Corp. Interchemical Corp. Iselin-Jefferson Financial Co.	
Interchemical Corp.	
Inc.	6
	0
Kenyon-Piece Dyeworks, Inc. Kidde Manufacturing Co., Inc. Knitting Arts Exhibition Koppers Company, Inc.	58
Lambertville Ceramic & Mfg.	
Co	86
Laurel Soap Mfg. Co.	
Leesona Corporation	27
Leesona Corporation 26, Lohrke Company, J. L. Loper Company, Ralph E. Lubiplate Division,	12
Fiske Bros. Refining Co.	
Madden's Textile Ceramics, Inc. Malina Company	83 80
Madden's Textile Ceramics, Inc. Malina Company Marshall & Williams Corp. McBride Co., Inc., E. J. McCandless Corp. Metlon Corp.	
Metlon Corp.	
Milton Machine Works, Inc.	45
National Drying Machinery Co. Lubricant Co. National Starch & Chem. Corp. National Vulcanized Fibre Co. Lestershire Spool Div. Neufield and Lall New York & New Jersey	
National Vulcanized Fibro Co.	
Lestershire Spool Div	
Neufield and Lall	
New York & New Jersey Lubricant Co.	
Lubricant Ca	
Lubricant Co.	

_		
	Nopco Chemical Co.	
	Onyx Oil Chemical Co	
	Perkins & Son, Inc., B. F. Polymer Industries Portland Company Putnam Chemical Corp	
	Reiner, Inc., Robert Reliable Sample Card Co., Inc. Riggs & Lombard, Inc. Riordan Sales Corp., Ltd. Roberts Company Rhodia, Inc. Rusch & Co.	
	Saco-Lowell Shops II Co Sandoz, Inc. Sargent's Sons Corp., C. G. Scholler Bros. III Co Scott & Williams, Inc. Scott Testers, Inc. Scragg, Ernest & Sons, Ltd.	51 over 33
	Simco Co., Inc. Snedeker & Co., Inc.	3
	Southern Shuttle Div. Steel Heddle Mfg. Co.	9
	Standard Chemical Products, Inc. Standard Engineering Works Stauffer Chemical Company Steel Heddle Mfg. Co.	13 83 9
	Talcott, James, Inc. Terrell Machine Co. Textile Banking Co. Textile Hall Corp. Textile Machine Works Traphagen School of Fashion Trumeter Co.	71
	Union Carbide Chem. Co. Div. Union Carbide Corp. Chemical Dept.	83
	Textile Fibers Dept. U.S. Ring Traveler Co. U.S. Textile Machine Co. Uster Corp.	15
	Verona Dyestuffs Von Kohorn International Corp.	
	Walton & Lonsbury Whitin Machine Works Whitinsville Spinning Ring Co. Woonsocket Napping Mach. Co.	85
	BUSINESS SERVICE	
	Bertner Yarns Co. Chas. P. Raymond Service Inc. Karl Koehne Publishing Co	87 87 87



Scholler

PIONEERS IN THE BETTER FINISHES THAT MAKE THE BETTER FABRICS

Manufacturers of Textile Finishes. Resins. Softeners. Detergents, Soaps. Oils and Specialties. DURASEPTIC A finish additive that inhibits growth of bacteria on fabrics minimizes perspiration adars, retards

BROSCO-TEX: A new finish design

+ BROSCO-TEX: A new finish design

to enhance tufted fabrics of all kinds

to enhance tufted fabrics of all kinds

to enhance tufted fabrics of all kinds

assures better maintenance desirable hir

assures sessiliency and more desirable hir

HYSORB FINISHES: Produce a thirst resistant fabrics of mon-made fibers!

Hysorb

RROSCO-TEX

SCHOLLER BROTHERS, INC., Collins & Westmoreland Streets, Philadelphia 34, Pa. In CANADA: SCHOLLER BROTHERS, LTD., St. Cutharines, Ontaria



AlSiMag thread guides of this alumina ceramic are giving good performance in tough spots where no other material had been satisfactory.

This homogeneous material is unusually hard and strong. It has a water absorption of zero, specific gravity of 3.7 and density of 0.135. It has a hardness of 9 on Mohs' scale, compressive strength of 400,000 psi, tensile strength 25,000 psi, flexural

strength 60,000 psi and a $\frac{1}{2}$ " rod has a resistance to impact of 7 inchpounds. It withstands heat up to the 3000° F. area.

All this adds up to the fact that this AlSiMag Alumina Ceramic is harder and more wear resistant than any known metal.

Guides in this material can be supplied in satin or bright finish. Rods and tubes can be supplied in controlled finishes in a normal range of 5 to 70 micro-inches r.m.s. Other special finishes can be supplied when required.

AlSiMag 614 guides are exceptionally uniform from guide to guide and from lot to lot.

If you have a difficult guide application you may find this the answer.

Prototypes can be made promptly and at reasonable cost so you can make tests in your own plant. Send blue print, sketch or sample guide.

A Subsidiary of Minnesota Mining and Manufacturing Company



AMERICAN LAVA

CHATTANOOGA 5, TENN.

59TH YEAR OF CERAMIC LEADERSHIP

SALES ENGINEERS: NEW ENGLAND: W. J. Geary, 27 Fairlawn St., Cranston, R. I., Williams 1-4177. NORTHEAST: J. S. Gosnell, 205 Walnut St., Livingston, N. J., WYman 2-1260. SOUTHEAST: James W. Crisp, Route 4, Taylors, South Carolina, Churchill 4-0063: ALL OTHER AREAS: J. B. Shacklett, J. E. Hicks, or W. H. Cooper, American Lava Corporation, Chattanooga 5, Tenn., AM 5-3411. REPRESENTATIVES: CANADA: Ian M. Haldane & Co., P. O. Box 54, London, Ont.

ALL OTHER COUNTRIES: Minnesota Mining and Manufacturing Co., International Division, 99 Park Ave., New York, N. Y.

